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# Bulletin of The American Association of Collegiate Registrars

October  
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Vol. XI  
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## College Scholarship and Persistence of Transfer Students from Junior Colleges<sup>1</sup>

FRED L. KERR AND J. R. GERBERICH

### INTRODUCTION

The number of junior entrants to senior colleges who transfer approximately two years of work from junior colleges has been regularly increasing during the past few years as the result of the increase in the number and enrolments of junior colleges. Therefore, it is important to have more definite information than has heretofore been available concerning the senior college careers of these advanced-standing entrants. The purpose of the investigation reported here is to compare the University of Arkansas careers of junior college transfers with the careers of a group of students, as nearly similar as can be obtained, whose first college attendance was at the University.

Junior college transfers who entered the University with approximately two years of advanced standing during the years 1928 to 1932 inclusive were selected as the basic group. A total of 215 transfers from state, public, and private junior colleges entered the University during the five-year period.

In order to obtain an adequate basis of comparison for the evaluation of the University careers of these students, a group of students who entered the University as freshmen and who persisted more

<sup>1</sup> Research paper No. 393, Journal Series, University of Arkansas.

than four semesters in attendance was selected. This group, numbering 436, or approximately twice as large a group as the junior college transfers, was so selected as to compare as closely as possible with the junior college transfers. For each junior college student, two University students from the same college of the University, from the same class, and of the same sex, were chosen. The native students were selected by an alphabetical sampling of those meeting the qualifications listed, and should therefore be a purely random sample. It is felt that the larger size of the University group should, in large measure, eliminate or equalize any selective factors other than that of the school at which the first two years of college work was taken and that the two groups may therefore be validly compared.

Probably the two most important evidences of college success are scholastic standing and persistence in attendance. Therefore, the scholarship and persistence in attendance of these two groups of students, all of whom enrolled as juniors in the University, were carefully determined and analyzed. The persistence of the students in the two groups had been similar up to the first semester of the junior year, so persistence data apply only from that semester onward. However, scholastic success was considered not only for the senior college years but also for the first two years of college attendance.<sup>2</sup> No attempt was made to equate the two groups on the basis of scholastic success during the first two years because of the institutional differences in grading standards which are known to exist. That any such equation, had it been attempted, would have invalidated the findings will be made apparent later in this paper.

Table I gives information concerning the median age of various groups of students at the time of entrance to the freshman year of college. The range of ages in years and months is also given for each group. The latter figures show that the youngest freshman of the group was fourteen years and nine months of age at college entrance, while the oldest entrant was twenty-nine years and five months old.

The median entrance ages of 18.32 for the University group and 18.51 for the junior college group show that only 0.19 years, or approximately two months, age difference existed between the two groups. Data for the sexes of the total University and junior college groups show the University men to have a median age 0.21 years

<sup>2</sup> Since all institutions represented used an A, B, C, D, and F marking system, the following system of weighting semester or term marks was applied to obtain the grade point averages for all years of attendance: A 6, B 4, C 2, D 0, E -1, and F -2.



lower than that for the comparable junior college men, but the median age for the junior college women is 0.03 lower than that for the University women.

TABLE I  
GROUP AND SEX DIFFERENCES IN AGES AT  
COLLEGE ENTRANCE

GROUP	AGE AT COLLEGE ENTRANCE		
	No.	MEDIAN	RANGE
All university.....	436	18.32	15-0 to 29-5
All junior college.....	215	18.51	14-9 to 28-0
University men.....	289	18.57	15-3 to 25-6
University women.....	147	17.97	15-0 to 29-5
Junior college men.....	144	18.78	16-1 to 28-0
Junior college women.....	71	17.94	14-9 to 27-0
Public junior colleges.....	58	17.92	16-1 to 23-1
State junior colleges.....	133	18.92	15-9 to 28-0
Private junior colleges.....	24	18.10	14-9 to 23-0

In the lower part of the table are given the numbers and age data of junior college transfers from three types of junior colleges—public, state, and private. Although the median ages of 17.92 for the 58 public junior college transfers and 18.10 for the 24 private junior college transfers are both lower than the 18.32 for the University group, the median age of 18.92 for the 133 state junior college transfers raises the median age for all junior college students above that for the University entrants.

#### GROUP DIFFERENCES IN BOTH JUNIOR AND SENIOR COLLEGE SCHOLARSHIP

Table II presents information concerning the scholastic success of the University and junior college groups both for the senior college years, taken in the University by all groups, and for the junior college years, taken in the various junior colleges by the transfer students and in the University by the native students. Since all institutions represented make use of similar marking systems and since the junior college scholastic standing of all transfer students is made a part of the transfer record upon entrance to the University, the data for all groups were computed on exactly the same basis and are undoubtedly strictly comparable. The mean grade point averages for each single semester were obtained as the ratio between the total grade points amassed by each group of students and the

TABLE II  
GRADE POINT AVERAGES FOR UNIVERSITY ENTRANTS AND JUNIOR COLLEGE  
TRANSFERS—BY SEMESTERS AND CUMULATIVE

SEM.	UNIVERSITY			JUNIOR COLLEGE			JUNIOR COLLEGES BY TYPES							
	No.	MEAN AND P.E.		No.	MEAN AND P.E.		PUBLIC		STATE		PRIVATE			
							No.	MEAN AND P.E.	No.	MEAN AND P.E.	No.	MEAN AND P.E.		
1	436	2.35		215	3.17		58	2.60		133	3.22		24	4.07
2	436	2.40		215	3.28		58	2.82		133	3.33		24	3.97
3	436	2.39		215	3.34		58	2.93		133	3.38		24	4.05
4	436	2.38		215	3.43		58	3.10		133	3.41		24	4.25
1-4	436	2.36 ± .04		215	3.25 ± .05		58	2.85 ± .12		133	3.30 ± .06		24	3.96 ± .13
5	436	2.43		215	2.16		58	2.10		133	2.23		24	1.87
6	421	2.56		195	2.35		54	2.36		121	2.36		20	2.33
7	359	2.80		167	2.71		47	2.78		104	2.69		16	2.65
8	342	2.90		154	2.76		46	2.84		96	2.77		12	2.25
5-8	436	2.55 ± .04		215	2.25 ± .06		58	2.29 ± .12		133	2.28 ± .06		24	2.02 ± .17
1-8	436	2.46 ± .04		215	2.85 ± .05		58	2.59 ± .10		133	2.88 ± .07		24	3.29 ± .14

Averages for semesters 1-4, 5-8, and 1-8 were computed from grouped frequency distributions of individual student grade point averages and therefore represent mean grade point averages, whereas the remainder of the averages were obtained by dividing the total number of grade points for all students by the total number of hours carried by the same students.

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total number of course hours carried by the group. Because of the fact that these data are not subject to certain statistical applications which will be made later in the report, the mean grade point averages for semesters 1-4, 5-8, and 1-8 were so computed as to permit of these applications. The method used for these three combinations of semesters was to compute the mean of a grouped frequency distribution of the cumulated grade point averages made by the individual students for the indicated semesters.

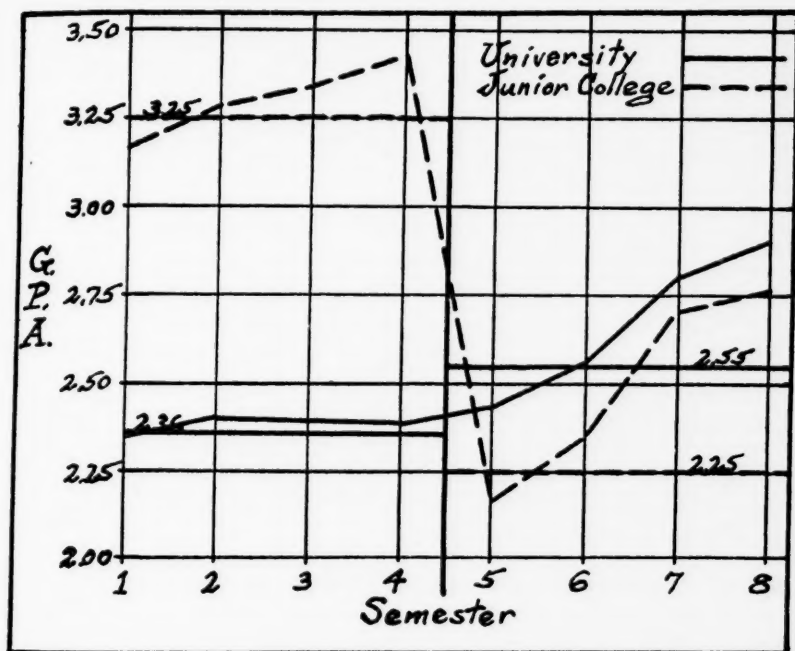


FIG. 1. Mean grade point averages of junior college transfers and university entrants by semesters.

Figures 1 and 2 present different aspects of the data given in Table II in graphical form. Figure 1 shows the relative scholastic success of the junior college and University groups by semesters of attendance. Figure 2 shows the relative scholastic standing of four groups of students—transfers from public, state, and private junior colleges, and University entrants.

It is readily apparent from Figure 1 that the junior college transfers made much higher grade point averages in the junior colleges

than did the comparable group of University entrants in the University. The comparable grade point averages for semesters 1-4 are 3.25 for the junior college students and 2.36 for the University stu-

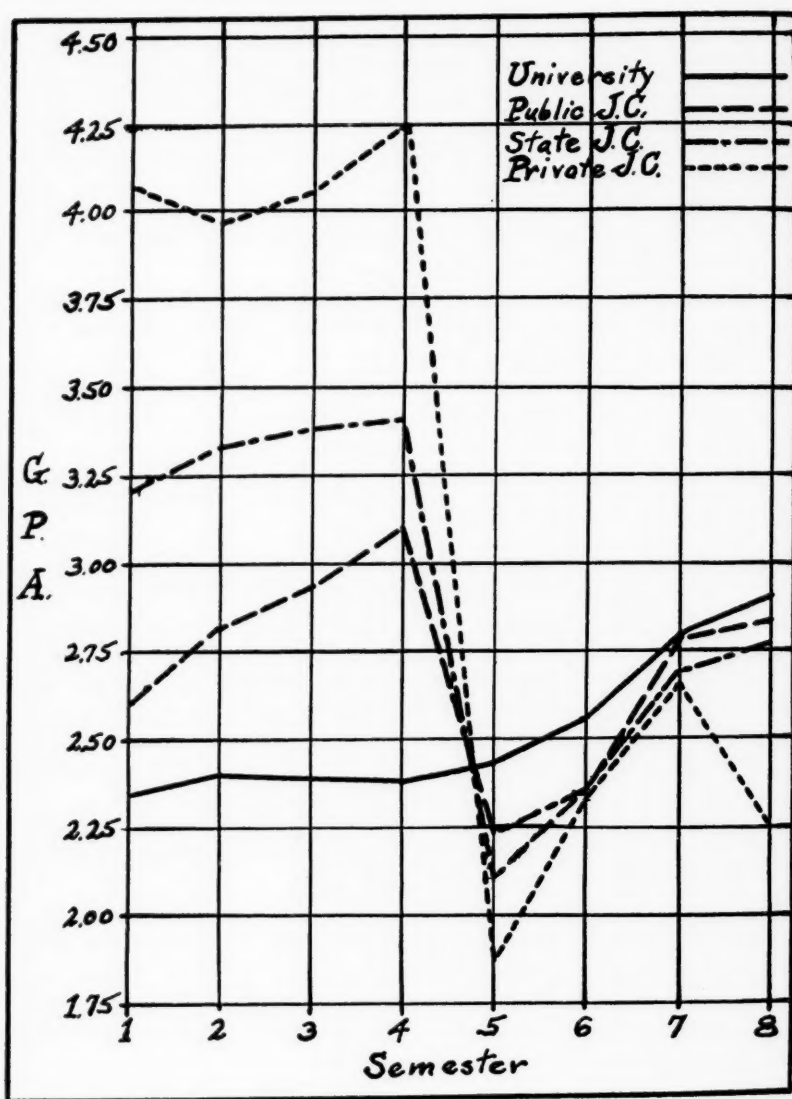


FIG. 2. Mean grade point averages of transfers from three types of junior colleges and of university entrants by semesters.

dents. It is probable that most of this difference of 0.89 grade points results from the difference in junior college and University marking standards.

The transfer students attained mean grade point averages of 3.43 for their fourth semester of junior college attendance and 2.16 for their first semester at the University. This difference of 1.27 grade points is obviously very great. If we are to accept the difference of 0.89 grade points obtained in the paragraph above as representing the difference in marking standards between the University and the junior colleges, there remains a difference of 0.38 grade points ( $1.27 - 0.89$ ) to be accounted for by some other method. A possible explanation might be that junior college transfers who enter the University as juniors face a period of adjustment comparable to that commonly thought to face freshman entrants to college. However, there are several types of evidence which tend to discount the view that such problems of adjustment account for the difference. First, the University scholastic history of the transfer students shows that, although they more closely approach the scholarship averages of comparable University entrants with progress from semester five to eight, they never, for any semester, reach the same or a higher level. If a period of adjustment accounted for the entire difference, similar scholastic success would be expected of the two groups during the last three semesters of that period. Second, the fifth semester scholarship standing of transfer students is lower by a considerable margin than the first semester records of the University group. Both groups had proved by the fact that they persisted at least to the fifth semester of college attendance that they had the ability to do college work, so it is believed that this comparison with the freshman records of successful students is valid. If this low fifth semester scholastic record of the transfer students were accepted as the result of an adjustment period, it would be necessary also to accept the untenable position that a more difficult period of adjustment follows transfer from junior to senior college than that which follows transfer from high school to University. Third, the scholarship records of the University entrants improved regularly and consistently from the fourth to the eighth semester. If the improvement between the fourth and fifth semesters were also considered to operate for the transfer students, the result would be a slightly greater real drop in scholarship standing between these semesters than is shown in the figure for the transfer group. On the whole, it seems

TABLE III  
RELIABILITY OF DIFFERENCES BETWEEN MEAN GRADE POINT AVERAGES OF UNIVERSITY EN-  
TRANS AND JUNIOR COLLEGE TRANSFERS FOR SEMESTERS 1-4 AND 5-8

Group	Semesters	No. of Students	Mean and P.E.	Diff.*	S.D. Diff.	Diff.	
						S.D. Diff.	
University . . . . .	1-4	436	2.36 ± .04	—	—	—	—
	5-8	436	2.55 ± .04	—	—	—	—
All junior colleges . . . . .	1-4	215	3.25 ± .05	+0.89	0.10	8.90	
	5-8	215	2.25 ± .06	-0.30	0.10	3.00	
Public junior colleges . . . . .	1-4	58	2.85 ± .12	+0.49	0.18	2.72	
	5-8	58	2.29 ± .12	-0.26	0.18	1.44	
State junior colleges . . . . .	1-4	133	3.30 ± .06	+0.94	0.11	8.55	
	5-8	133	2.28 ± .06	-0.27	0.12	2.25	
Private junior colleges . . . . .	1-4	24	3.96 ± .13	+1.60	0.20	8.00	
	5-8	24	2.02 ± .17	-0.53	0.26	2.04	

\* All differences are based on the mean G.P.A. of the University group for the comparable semesters. Mean scores above those for the University group are designated by positive signs, those below the University mean are indicated by negative signs.

fair to conclude that the drop in scholastic record beyond that resulting from junior college and University differences in grading standards is only in slight degree accounted for by the period of adjustment in the new University atmosphere. The inevitable conclusion seems to be, therefore, that the difference is partly if not largely the result of differences in one or several such factors as training, ability, interests, and the like, between the transfer students and native University students.

While the data for semesters one to four are based on all 215 of the junior college transfers and all 436 of the native University students, such is not the case for the senior college years. All students in both groups entered the fifth semester at the University and persisted in attendance during at least that semester. For semesters six to eight, then, the data are based on the number of each group shown in Table II to have persisted the designated number of semesters.

It is apparent from Figure 1 that the native University students maintained higher scholastic averages than did the junior college transfers for every semester at the University. Although the margin of difference is shown to be smaller for the last two semesters than for semesters five and six, the difference where the two groups most closely approach—the seventh semester—is 0.09 grade points. The mean grade point averages of 2.25 for the junior college transfers and 2.55 for the native University students during the entire senior college period shows the latter group to surpass the former by the considerable margin of 0.30 grade points.

Table III presents information concerning the reliability of the differences in mean grade point averages between the native University and junior college transfer students in terms of the differences divided by their standard errors.<sup>3</sup> Differences as great as three times their standard errors should be considered significant, or certain to represent true differences greater than zero.

Table III shows that all junior college groups made higher scholastic records than did the comparable University group for semesters 1-4, but that the University entrants made higher marks than did the junior college transfers for semesters 5-8. Comparison between the University group and all four of the junior college groups—all transfers and transfers from each of the three types of junior colleges—show complete statistical reliability for semesters 1-4.

<sup>3</sup> Henry E. Garrett, "Statistics in Psychology and Education," New York: Longmans, Green and Co., 1926, pp. 128ff.







That the higher scholastic standings of the junior college groups represent true differences greater than zero and can not be explained by errors of sampling, is shown by 100 chances in 100 that each difference is significant. It should be remembered, of course, that the comparisons for semesters 1-4 are based on the freshman and sophomore years taken in the junior colleges by the transfer students and in the University by the native students. Therefore, these findings do not indicate superior abilities on the part of the transfer students, but rather are the result in large measure of institutional differences in grading standards.

For semesters 5-8, taken in the University by all students, the group entering the University as freshmen attained higher scholarship ratings than any junior college group. The difference between the University group and all junior college transfers is shown to be significant or to be unalterable by chance factors in the sampling of students. Students transferring from the three types of junior colleges attained mean grade point averages sufficiently lower than the comparable mean for the University students to indicate that the chance of the differences being significant are 93, 99 and 98 in 100 for the public, state, and private junior college groups respectively. While these are not wholly significant differences, they closely approach that point and are entirely in harmony with the other findings.

In Table IV information is given concerning the reliability of junior and senior college scholarship differences between different groups of transfer students. The differences are subject to the same type of interpretation as those discussed above.

The data of Table IV, interpreted in connection with those of Table I and Figure 2, show that the junior college marks of the transfers from public and state institutions were both significantly lower than those of transfers from private schools, while the chances of a reliable difference, showing higher marks for state than public junior college transfers, are 99 in 100. Differences in University scholarship are in no case significant, but it is interesting to note that the transfers from private schools received the highest junior college and the lowest senior college marks, the transfers from public institutions received the lowest junior college and the highest senior college marks, and the transfers from state schools occupied a middle position on both categories. In the extent to which the abilities of the students are reliably indicated by scholarship in the University, then, it seems fair to conclude that the supposedly comparable

TABLE VI  
SEX DIFFERENCES IN GRADE POINT AVERAGES FOR UNIVERSITY ENTRANTS AND JUNIOR COLLEGE TRANSFERS—BY SEMESTERS AND CUMULATIVE

SEMESTER	UNIVERSITY				JUNIOR COLLEGE			
	MEN		WOMEN		MEN		WOMEN	
	No.	MEAN AND P.E.	No.	MEAN AND P.E.	No.	MEAN AND P.E.	No.	MEAN AND P.E.
1	289	2.08	147	2.87	144	2.87	71	3.73
2	289	2.25	147	2.69	144	2.99	71	3.83
3	289	2.21	147	2.75	144	3.20	71	3.61
4	289	2.22	147	2.70	144	3.24	71	3.80
1-4	289	2.17 ± .05	147	2.75 ± .07	144	3.05 ± .07	71	3.66 ± .08
5	289	2.24	147	2.82	144	2.13	71	2.22
6	278	2.35	143	2.96	130	2.35	65	2.37
7	240	2.66	119	3.10	114	2.57	53	3.00
8	228	2.79	114	3.16	105	2.61	49	3.12
5-8	289	2.36 ± .05	147	2.92 ± .07	144	2.18 ± .07	71	2.40 ± .09
1-8	289	2.28 ± .05	147	2.81 ± .06	144	2.68 ± .06	71	3.19 ± .07

marks assigned in the three types of institutions in reality have far different meanings. Whereas the junior college marks assigned to transfers from public institutions are markedly higher than those received by comparable University students, the marks of state school transfers appear to be overstated to a relatively great degree and those of private school transfers, to an extremely great degree.

#### GROUP DIFFERENCES IN UNIVERSITY PERSISTENCE

Although indirect data were presented in Table II concerning the persistence in senior college attendance of the transfer and native University students, this second evidence of college success requires further data than have been presented so far and more complete treatment. Table V shows the persistence of the same groups used above from entrance into the first semester of the junior year in the University to graduation with a baccalaureate degree.

A comparison of the percentages of students who persisted each number of semesters from six to eight and who received their baccalaureate degrees brings out the fact that the native University students show a higher percentage of persistence at every level than do all junior college transfers. The same holds true for comparisons between the University group and transfers from each of the three types of junior colleges, except for one single percentage—79.3 per cent of the public junior college transfers and 78.4 per cent of the University entrants persisted at least eight semesters. Perhaps the most significant percentages of the table are those referring to graduation. Whereas 64.7 per cent of the University control group continued until they received their degrees, only 56.3 per cent of the transfer students have succeeded so far in obtaining their degrees. Differences between junior college types show the greatest percentage of graduation for students transferring from state institutions, despite the fact that a greater percentage of transfers from public institutions persisted eight semesters or more. The transfers from private institutions, with only one-third receiving degrees, made the lowest persistence and graduation record.

#### SEX DIFFERENCES IN BOTH JUNIOR AND SENIOR COLLEGE SCHOLARSHIP

A somewhat more brief treatment will be made of one other aspect of group differences—sex differences in scholarship and persistence for the transfer and native University groups. Table VI gives data

comparable to those of Table II for the men and women of both groups.

Although it is apparent from the data of Table VI that the women surpass the comparable men at every level, for both the University

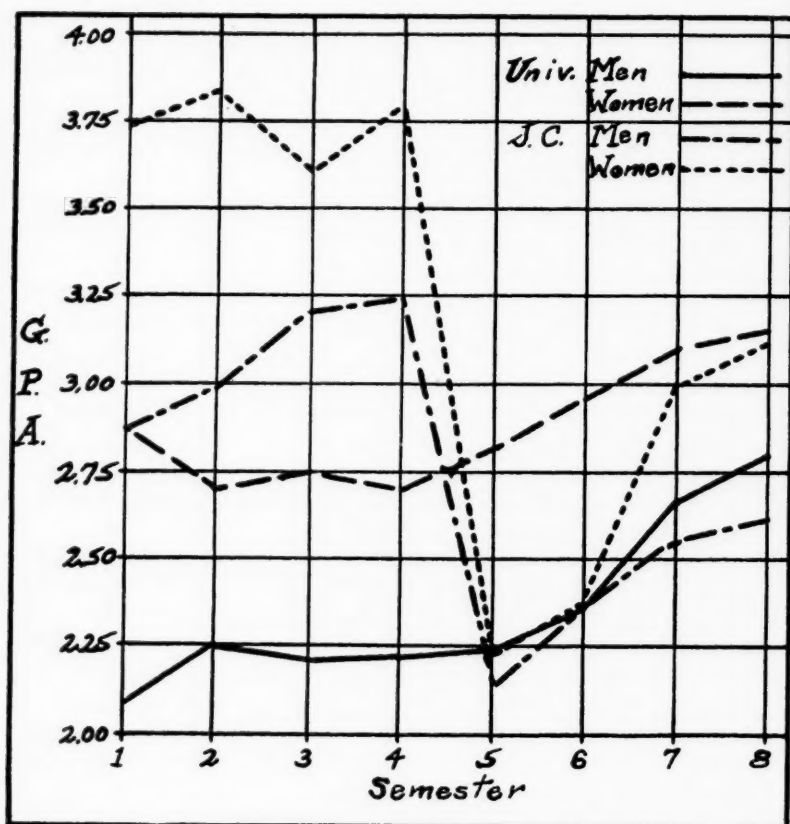


FIG. 3. Mean grade point averages of men and women junior college transfers and university entrants by semesters.

and the transfer groups, Figure 3 depicts certain aspects of the data more clearly than the tabular presentation as a basis for further discussion.

Figure 3 shows no overlapping whatsoever in the scholastic standings of the four groups for the first two years of college attendance. The descent on the scale is consistent from the highest-ranking

junior college women to junior college men, native University women and the lowest-ranking native University men. For the senior college at the University, the scholastic differences are less great and some overlapping exists. Here, native University women, who made the highest marks, are followed by transfer women, native University men, and transfer men in the order listed.

One aspect of this figure further supports the view presented above that differences in institutional marking standards account for a sizeable portion of the scholarship differences shown to exist between junior college transfers and University entrants during the junior college years. This is the fact that the transfer men made considerably higher course marks in the junior college than the University women did during the same years in the University, but that the University women far surpassed the transfer men during the senior college years, during which the two groups were subjected to similar marking standards. Furthermore, an almost universal finding is that women do better scholastically than men of comparable classes, so this apparent superiority of the junior college men during the first two years can be explained only in terms of the different marking standards to which the junior college men and University women were subjected.

#### SEX DIFFERENCES IN UNIVERSITY PERSISTENCE

Table VII gives information concerning persistence beyond the fifth semester for men and women from both transfer and native University groups.

The percentages of Table VII are less consistent than those in Table IV which were concerned with the relative persistence of the transfer and control groups. In general, however, persistence appears to have been slightly greater for the men of both groups up to eight or more semesters of attendance than for the comparable groups of women. Despite this fact, a greater percentage of the women from each group so far have obtained their degrees than is true of the men. However, the greater persistence and percentage of graduation for native University students is evidenced here in two ways: wholly consistent higher percentages for native University men and women than for the like sexes of the transfer group at every level of persistence and at graduation, and higher percentages at every persistence level and graduation for the lower sex group of University students—the men—than for the higher sex group of transfer students—the women.

TABLE VII  
SEX DIFFERENCES IN SENIOR COLLEGE PERSISTENCE BY UNIVERSITY ENTRANTS AND JUNIOR COLLEGE TRANSFERS

SEMESTER	UNIVERSITY				JUNIOR COLLEGE			
	MEN		WOMEN		MEN		WOMEN	
	No.	P.C.	No.	P.C.	No.	P.C.	No.	P.C.
5	289	100.0	147	100.0	144	100.0	71	100.0
6	278	96.2	143	97.3	130	90.3	65	91.5
7	240	83.0	119	81.0	114	79.2	53	74.6
8	228	78.9	114	77.6	105	72.9	49	69.0
Degree	176	60.9	106	72.1	79	54.9	42	59.2

## SUMMARY AND CONCLUSIONS

The most important findings and some of their implications are briefly mentioned below.

1. The transfer students made significantly higher marks during their junior college years than did the native students during their first two years at the University.

2. The native students made significantly higher marks during their senior college years than did the transfer students.

3. The probable explanations of these differences are: (a) less rigid marking standards in the junior colleges than in the University, and (b) less satisfactory status of transfer than of native students on one or more of such factors as training, ability, interests, etc.

4. Of the three transfer groups, students from the private junior colleges received the highest junior college and the lowest senior college marks, students from the public junior colleges received the lowest junior college and the highest senior college marks, and students from the state junior colleges ranked between the two extremes on both junior and senior college scholarship.

5. Persistence in attendance at the University from the first semester of the junior year to graduation was considerably greater for the native University students than for the transfer students.

6. The rank of the four sex groups on junior college scholarship was, in descending order, transfer women, transfer men, native women and native men.

7. The rank of the four sex groups on senior college scholarship was, in descending order, native women, transfer women, native men, and transfer men.

8. Despite the fact that more men than women from both the transfer and native groups persisted at least eight semesters in attendance, a greater percentage of the women in each group so far have received their baccalaureate degrees. This may be the result in part of the greater tendency for men to take combined courses leading directly to professional degrees and in part of the fact that the lower scholastic standing of the men more frequently requires one or more extra semesters of attendance.

9. Not only did the native students of both sexes persist longer in attendance than the comparable sex group of transfer students, but also the sex group of native students showing least persistence remained in attendance longer than the more persistent sex group of transfer students.



# Predicting Academic Achievement at the University of Oregon

CLIFFORD L. CONSTANCE

Last spring we completed a rather comprehensive investigation of the students who enter the University of Oregon, with special reference to their academic achievements in the University, and a method of anticipating in advance the quality of those achievements. The main purpose was the determination of regression equations, to use in estimating the grades which students would earn and the length of time they would remain in the University. However, there have been many important by-products. Committees of the faculty have been studying various aspects of curricular organization and this study has been very useful to them. Also we have made an analysis of students received from individual schools, and have reported to each high school in the state concerning the graduates of that school who have enrolled here. The techniques used are so fruitful that we are continuing them as aids to deriving similar data as needed in the future.

In scope the study included all undergraduate matriculates entering during a five-year period, excepting a very few individuals of irregular status. For each matriculate a Hollerith card was prepared, summarizing data dealing with him personally and with his academic record. The card shown (Figures 1 and 2) differs from those actually used in this study but is our present best idea for the purpose. It concentrates the data used in this investigation and, on the reverse side, summarizes many additional important details of a student's academic record for regular office use (see our Chapter V of Part II in *Practical Applications of the Punched Card Method in Colleges and Universities*).<sup>1</sup>

The basic data of the study divide naturally into four periods in student chronology as indicated below.

1. *Data known before matriculation*: name; sex; school last attended, and preparatory school from which the student graduated if matriculating from another college; and decile based on preparatory school grades, or advanced grade point average and advanced credits if matriculating from another college or university.

2. *Data known shortly after matriculation*: date of matriculation;

<sup>1</sup> Baehne, G. W., pp. 59-90.



age at matriculation; major at matriculation; and decile based on entrance psychological examination.

3. *Data known after completion of first term in the University:* first-term grade point average; term hours passed in first term; term hours failed in first term; and estimated grade point average

University of Oregon Summary Hollerith Card	Name		M		Race	White	Date of birth:		Place of birth	
	Sex: F		citizenship: U.S.				Month Year			
	Prep. decile (a)		Prep. school							
	Adv. GPA (A)		Adv. credits (B)							
	Colleges: Last		Others							
	Pay. decile (cC)		Date of first U. O. resident registration:		Term or month Year					
	First-term (regular sessions) GPA (dD)		First-term hours passed (pP)							
	Est. GPA (acd, ABCD)		Est. percent completion for degree (dp, BDP)							
	Eng. decile		Phys. rating		Scholarship penalties, scholastic honors					
	Final GPA		Final terms registered		Final percent completed		Date graduated			
Name		Sex		Date of birth		Prep. decile		Adv. GPA		
1		2		3		4		5		
6		7		8		9		10		
11		12		13		14		15		
16		17		18		19		20		
21		22		23		24		25		
26		27		28		29		30		
31		32		33		34		35		
36		37		38		39		40		
41		42		43		44		45		
46		47		48		49		50		
51		52		53		54		55		
56		57		58		59		60		
61		62		63		64		65		
66		67		68		69		70		
71		72		73		74		75		
76		77		78		79		80		
81		82		83		84		85		
86		87		88		89		90		
91		92		93		94		95		
96		97		98		99		100		

FIG. 1. Face of University of Oregon Summary Hollerith Card.

NAME		MAJOR		DEGREE SOUGHT	
For J.C.L.	CLASS	For D.M.			
• Entrance		J.C.			
• CREDITS		CREDITS			
• GPA		GPA			
• Pts.					
• Hrs.					
• Eng. K		U. D. Cred			
• Eng. Comp.		Major Credits			
• Phys. Ed.		U. D. Maj. Credits			
• Mil. or Hygiene		Credits After J.C.			
• Groups	I	Degree Subjects			
	II	Residence, Restrict.			
	III				
Checked After (Term or date)					

FIG. 2. Reverse of University of Oregon Summary Hollerith Card.

(by techniques from a previous partial study) based on the two deciles and first-term grade point averages.

4. *Data known after conclusion of the University career:* final grade point average; number of terms registered; per cent completion of requirements for bachelor's degree; date of graduation, if any; and scholarship penalties, if any.

The process of organizing and coding data, for the last revision of the card shown in this article, is described in the book and chapter

referred to in the second paragraph.<sup>2</sup> Our evaluations of preparatory-school records, grade point averages, actual and estimated, and a few other factors are described in our article, "The University Presents—Student Facts," in the *Oregon Education Journal* for February, 1935. Since that time our grade point system has been changed; now, 4 points are given for each hour of A; 3, for B; 2, for C; 1, for D; and 0, for F. All statistics in this present article have been changed accordingly, but the Report Sheet in Figure 3 is based on the for-

Student's Name	Term	Admission	Major at Admission	Age at Admission	Prep. Grade				Freshman Grade				Term Attended	Year Graduated	Scholarship Position
					Prep. Double	Prep. Single	Prep. Term	ESTIMATED U. O. GPA	ESTIMATED U. O. GPA	ESTIMATED U. O. GPA	ESTIMATED U. O. GPA	No. Hours Graded			
1. F..., Margaret H.	F 29	AA	20	7	3	1.4	1.6	1.3	18	72	2	6	-	-	
2. M..., Russell B.	F 29	BA	26	8	7	2.4	2.3	1.9	123	59	0	13	34	-	
3. P..., George E.	F 33	BA	18	7	4	0.8	1.2	0.5	0	41	4	3	-	P	
4. P..., John R.	F 31	BA	18	6	4	0.4	0.9	0.3	8	78	25	9	-	PPePD	
5. S..., Carl E.	F 29	Sc	18	6	7	-0.2	0.7	-0.1	2	16	11	2	-	PD	
6. T..., Mary E.	F 29	AA	16½	10	5	2.1	2.2	1.9	120	69	0	12	33	-	

FIG. 3. Sample of Report Sheet for Oregon High Schools.

mer system. Possibly none of the other data require explanation here. Our choice of factors for deriving prediction equations was highly eclectic; we attempted to follow out various promising leads, especially those discovered at this University by Dr. Howard R. Taylor, Dr. Earl M. Pallett, and Dr. Harl R. Douglass. Many of the factors proved of little or no value in statistical prediction, although they still may be worth securing for student descriptive purposes.

#### REPORT TO THE HIGH SCHOOLS

In this section we shall describe particularly the report made to high-school principals. This entire study of admissions was begun as a purely research project of and for the University, but as it progressed we observed varied possible uses for the data and were moved to share them with people in positions to profit from the information. The first notice that this study was under way came to

<sup>2</sup> Baehne, *op. cit.*

the high-school principals when they received a copy of the data on their graduates who had come to the University, together with an accompanying letter of explanation. Quotations from this letter will indicate the spirit in which the data were submitted:

We are sending you a list of students from your school who have entered the University of Oregon at some time during the years 1929-30 to 1933-34; their records with us have been summarized to the beginning of the fall term of 1934-35. This is one result of a research study we have made, aiming to show what various types of students have accomplished with us, and to indicate what steps we may take to improve their educational guidance. We have thought you would be interested to receive this information for your school, both in order to know the subsequent educational success of your graduates and perhaps also to check back, using your early personal knowledge of the students, into their high-school work for possible reasons for later success or failure.

The February number of the *Oregon Education Journal* will contain an article explaining the factors used and the purpose of this report as a whole. For your immediate information we will briefly explain the types of data presented on the enclosed list. . . .

In order that you may compare your own school with the schools of the entire state, we have listed below the averages for 3,658 students from 223 Oregon preparatory schools. . . .

Four copies of this report have been made: one is enclosed; one may be sent to the State Department of Education; two will remain in our files. We believe that rigorous investigation but discreet use of the findings will benefit both the preparatory schools and the higher educational institutions. This study is but one indication of the co-operative research projects which could be organized. Our regular facilities do not permit much extra work, and, as a matter of fact, these reports might have been impossible without considerable clerical assistance furnished us under Federal Emergency Relief appropriations. However, we hope this information will be of interest and use to you as well as to us, and are glad to offer any further information or explanations which we can provide.

One anonymous but otherwise actual sample of these reports is shown in Figure 3. The blank forms were multigraphed at slight cost, and the data typed directly from the Hollerith cards which had been sorted by schools and alphabetized.

For our own files we have prepared summary tables showing averages for all matriculates from each school, both preparatory and advanced. As we suggested to the principals, comparison of a high-school's averages with the total averages for all Oregon schools yields a standardized measure of the graduates of that school. So few students come from many of the smaller schools that it may be years before our samples are definitely representative and reliable.

## CORRELATIONS AND PREDICTION EQUATIONS

In this section we shall describe, first, the background and purpose and, then, the procedures of our statistical treatment. Not all of the data previously enumerated were suitable for analysis by correlation but nine or ten objective factors or variables were used in this part of the study. Only those students were included who had been graduated or who had dropped out and were not registered during the last year of the study, 1933-34; thus the active students with indeterminate University records were omitted here. Six sets of correlation coefficients were computed, for different population groups. The entire group was divided into those matriculating directly from preparatory schools (henceforth designated "Prep.") and those with intervening work at another college or university (henceforth designated "Adv."). Within each of these divisions separate determinations were made for men, for women, and for both men and women. Sex differences proved small and unreliable, however, and the separate determinations were discontinued after zero-order correlation coefficients. The populations involved are large enough that the probable error in no case exceeds 0.03. These populations are: Prep. men, 1098; Prep. women, 967; Prep. men and women, 2065; Adv. men, 524; Adv. women, 496; Adv. men and women, 1020. The final regression equations, one set for Prep. men and women and one set for Adv. men and women, are therefore based on populations of over two thousand and over one thousand respectively.

The pattern of factors included in the analysis differs slightly for Prep. and Adv. groups, and the variables are listed below with the code letter used for each:

<i>Prep. Adv.</i>		<i>Independent Variables</i>
<i>a</i>		Prep. decile (based on preparatory-school grades; decile 1 is lowest tenth)
	<i>A</i>	Adv. GPA (grade point average based on transferred college work; 4.00 is equivalent to "A" grade)
	<i>B</i>	Adv. credits (term hours of transferred college work)
<i>b</i>	<i>I</i>	Age at matriculation
<i>c</i>	<i>C</i>	Psy. decile (based on entrance psychological examination)

<i>d</i>	<i>D</i>	First-term GPA (grade point average first term in University)
<i>p</i>	<i>P</i>	Hours passed first term in University
<i>q</i>	<i>Q</i>	Hours failed first term in University

*Dependent Variables*

<i>m</i>	<i>M</i>	Final GPA (to end of undergraduate career in University)
<i>k</i>	<i>K</i>	Number of terms registered (to end of undergraduate career in University)
<i>n</i>	<i>N</i>	Per cent completion of requirements for bachelor's degree (to end of undergraduate career in University)

Our purpose in this analysis was to find the best available basis for predicting, for each student, his most probable grades and the most probable length of time he would remain in the University. To do this we studied the predictive value of each independent variable for each dependent variable, as listed above. We desired to make the most accurate predictions that are possible at each of three times in a student's career: before matriculation, shortly after matriculation, and after the completion of one term in the University.

Of the six or seven independent variables, two—age and hours failed first term—proved to make no significant contribution. Previous grades, high-school or college, are significant in predicting University grades but not in predicting continuance; amount of previous college work, naturally, is significant in predicting continuance. Ability as shown on the psychological examination contributes to all the predictions until its values are absorbed in the greater significance of the first-term University record. Throughout the entire set of correlations, the predictive value of the first term is strikingly strong; we recognize that statistically its inclusion in the total introduces a spurious factor in correlations between them, but this is justified and made necessary by our objective of prediction.

It proved almost impossible to predict the number of terms a student would register in the University, partly because factors favorable to keep a student in school until graduation in the normal twelve terms would operate in the reverse direction for those unable to graduate until they had spent more than twelve terms—the more able student tends to continue to graduation but he does not tend to take more than twelve terms in the process. Another basis was





substituted, therefore, consisting of the per cent of completion of the requirements for graduation; thus the student who graduated had achieved 100 per cent on this basis, regardless of the length of time required, and a student had achieved 50 per cent when the quality and quantity of his work were equivalent to six of the twelve terms normally required for graduation. Fairly reliable prediction may be made in this way, but much less definitely than is possible for grade point average; it seemed excessively unreliable to attempt the prediction of continuance until after the first term here.

Of the possible techniques for obtaining product-moment zero-order correlation coefficients, we chose to sort our punched Hollerith cards and to record data distributions on printed correlation charts; in Figure 4 is shown a sample chart, a simplified form developed here especially for use with a calculating machine. After subdivisions of the population are recorded in the proper compartments of the chart, the routine is direct and definite for finding means, standard deviations, and zero-order correlation coefficients. In the next step of analysis, simultaneous equations were formed and solved by the Doolittle method, leading to Beta regression coefficients, coefficients of determination, and multiple correlation coefficients. At this stage it is possible to strike a balance between the contributions of additional factors and the extra labor of including them in the final calculations. Afterwards, the final regression coefficients and equations are computed, and tables are prepared from which can be read off the predictions for any individual student.

Statistics of the first part of the analysis are listed in Tables I and II which follow. Means, standard deviations, and zero-order inter-correlation coefficients are shown for all the variables included in the study (see list of variables in second paragraph of this section). In every instance they are given first for men, then (in italics) for women, and at the bottom for both men and women.

From this stage on, sex differences were ignored and the subsequent analysis based on data for men and women together. Table III shows the multiple correlation coefficients obtainable from various combinations of independent variables, as well as their zero-order correlation coefficients, in predicting the dependent variables  $m$ ,  $n$ ,  $M$ , and  $N$ . Variables  $k$  and  $K$  were dropped, since they yield maximum multiple correlations of only .37 and .34 respectively, as compared with those of .50 and .67 with the similar variables  $n$  and  $N$ . This table facilitates decision as to which and how many variables

TABLE I. MEANS, STANDARD DEVIATIONS, AND ZERO-ORDER CORRELATION COEFFICIENTS FOR PREP. GROUP:

Variables:	Men Women Men and Women								
	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>p</i>	<i>q</i>	<i>m</i>	<i>k</i>	<i>n</i>
<i>Means:</i>									
	4.381	19.338	5.149	2.033	13.134	1.396	2.004	5.089	38.100
	<i>6.257</i>	<i>18.593</i>	<i>5.611</i>	<i>2.556</i>	<i>14.595</i>	<i>0.551</i>	<i>2.293</i>	<i>5.566</i>	<i>44.475</i>
	5.281	18.989	5.366	2.185	13.818	0.999	2.139	5.313	41.150
<i>Standard Deviations:</i>									
	2.690	1.522	2.862	0.747	4.296	2.565	0.692	3.598	31.192
	<i>2.680</i>	<i>1.560</i>	<i>2.742</i>	<i>0.877</i>	<i>3.339</i>	<i>1.618</i>	<i>0.627</i>	<i>3.753</i>	<i>32.683</i>
	2.844	1.585	2.815	0.733	3.946	2.213	0.677	3.669	32.000
<i>Correlation Coefficients:</i>									
<i>a</i> .....	-.186	.412	.487	.241	-.218	.506	.197	.260	
	<i>-.158</i>	<i>.470</i>	<i>.525</i>	<i>.243</i>	<i>-.243</i>	<i>.537</i>	<i>.246</i>	<i>.286</i>	
	<i>-.240</i>	<i>.441</i>	<i>.536</i>	<i>.282</i>	<i>-.268</i>	<i>.549</i>	<i>.230</i>	<i>.289</i>	
<i>b</i> .....		-.234	-.123	-.188	.061	-.100	-.181	-.197	
		<i>-.173</i>	<i>-.073</i>	<i>-.139</i>	<i>.012</i>	<i>-.050</i>	<i>-.191</i>	<i>-.202</i>	
		<i>-.218</i>	<i>-.145</i>	<i>-.201</i>	<i>.085</i>	<i>-.121</i>	<i>-.196</i>	<i>-.216</i>	
<i>c</i> .....			.472	.221	-.197	.457	.168	.216	
			<i>.637</i>	<i>.245</i>	<i>-.273</i>	<i>.609</i>	<i>.214</i>	<i>.243</i>	
			<i>.504</i>	<i>.242</i>	<i>-.230</i>	<i>.484</i>	<i>.193</i>	<i>.235</i>	
<i>d</i> .....				.652	-.664	.875	.335	.436	
				<i>.613</i>	<i>-.675</i>	<i>.870</i>	<i>.330</i>	<i>.387</i>	
				<i>.616</i>	<i>-.641</i>	<i>.879</i>	<i>.337</i>	<i>.421</i>	
<i>p</i> .....					-.545	.565		.472	
					<i>-.442</i>	<i>.455</i>		<i>.375</i>	
					<i>-.527</i>	<i>.541</i>		<i>.436</i>	
<i>q</i> .....						-.557		-.278	
						<i>-.493</i>		<i>-.199</i>	
						<i>-.546</i>		<i>-.255</i>	
<i>m</i> .....								.487	
								<i>.398</i>	
								<i>.453</i>	

contribute enough significance to be worthy of inclusion. For instance, the correlation coefficient for predicting *m* is but .001 less using only *a* and *d* than it is when including all of *a*, *b*, *c*, *d*, *p*, and *q*. These decisions are to a degree subjective, and are made with consideration for the ultimate use of the data in compiling tables and applying them to individual students; it is very difficult to include more than three variables in a conveniently compact table. The combinations of independent variables which have been carried through to regression equations are italicized in the table.

Regression equations are determined quite directly from the data now given. However, if left in the usual form they would not furnish predictions toward the extreme limits of the variables but would tend to concentrate predicted scores nearer the mean. Clark L. Hull's method of correcting regression coefficients therefore has been followed, so that the standard deviations of our distributions of esti-



TABLE II. MEANS, STANDARD DEVIATIONS, AND ZERO-ORDER CORRELATION COEFFICIENTS FOR ADV. GROUP: <sup>Men</sup>  
<sup>Women</sup>  
Men and Women

Variables:	A	B	I	C	D	P	Q	M	K	N
<i>Means:</i>										
	2.149	70.743	21.970	6.645	2.253	13.768	0.830	2.264	4.229	59.367
	2.518	81.177	22.654	6.999	2.544	14.681	0.998	2.663	4.044	64.375
	2.330	75.830	22.302	6.817	2.396	14.164	0.620	2.411	4.139	61.817
<i>Standard Deviations:</i>										
	0.594	41.625	3.578	2.783	0.734	4.249	1.945	0.694	2.662	38.450
	0.549	42.453	5.448	2.594	0.674	3.786	1.547	0.647	2.426	36.592
	0.602	42.354	4.595	2.699	0.717	4.051	1.776	0.688	2.551	37.642
<i>Correlation Coefficients:</i>										
A.....	.254		.094	.316	.460	.187	-.244	.474	.084	.278
	.187	.199	.379	.533	.201	-.171	.586	.162	.265	
	.220	.165	.348	.521	.213	-.237	.551	.102	.276	
B.....		.357	.121	.182	.125	-.180	.236	-.187	.442	
		.358	.254	.203	.181	-.104	.261	-.238	.491	
		.356	.189	.212	.162	-.159	.263	-.213	.479	
I.....			-.133	.066	.018	-.067	.088	-.109	.121	
			.117	.170	-.026	-.059	.209	-.204	.133	
			.011	.134	.001	-.068	.165	-.160	.129	
C.....				.470	.300	-.258	.428	.085	.217	
				.498	.240	-.197	.508	.040	.272	
				.501	.278	-.238	.466	.063	.245	
D.....					.544	-.634	.838	.219	.438	
					.356	-.536	.881	.160	.366	
					.467	-.600	.863	.179	.407	
P.....						-.432	.533		.541	
						-.369	.341		.480	
						-.413	.453		.518	
Q.....							-.536		-.290	
							-.476		-.243	
							-.521		-.275	
M.....									.552	
									.424	
									.493	

TABLE III. CORRELATION COEFFICIENTS FROM VARIOUS COMBINATIONS OF INDEPENDENT VARIABLES

Time of Prediction	m from	Corr. Coef.	n from	Corr. Coef.	M from	Corr. Coef.	N from	Corr. Coef.
Before matriculation:	a	.549	a	.289	A	.551	A	.276
	b	-.121	b	-.216	B	.263	B	.479
	ab	.549	ab	.326	I	.165	I	.129
					AB	.670	AB	.510
After matriculation:	c	.484	c	.235	ABI	.571	ABI	.514
	a c	.612	a c	.313	C	.466	C	.245
	abc	.613	abc	.341	A C	.624	B C	.504
					AB C	.634	AB C	.521
After first term in University:					ABI C	.636	ABI C	.524
	d	.879	d	.421	D	.863	D	.407
	p	.541	p	.436	P	.453	P	.518
	q	-.546	q	-.255	Q	-.521	Q	-.275
	a d	.884	d p	.477	A D	.871	DP	.551
	a c d	.884	a d p	.486	A DP	.873	B P	.655
	a c d p	.884	a c d p	.487	AB D	.874	B DP	.667
	abcdp	.885	abcdp	.498	AB DP	.876	AB DP	.668
			abcdp q	.501	ABICDPQ	.876	ABICDPQ	.670

mated scores should be comparable to those of actually earned scores. The "expanded" regression equations are as follows:

Before matriculation:	$m = 0.24 a + 0.88 (\pm 0.70)$
	$M = 1.04 A + 0.004 B - 0.33 (\pm 0.67)$
After matriculation:	$m = 0.16 a + 0.12 c + 0.65 (\pm 0.59)$
	$M = 0.76 A + 0.003 B + 0.12 C - 0.40 (\pm 0.57)$
After first term in University:	$m = 0.03 a + 0.86 d + 0.11 (\pm 0.24)$
	$n = 22.48 d + 4.84 p - 74.85 (\pm 40)$
	$M = 0.18 A + 0.87 D - 0.10 (\pm 0.26)$
	$N = 0.51 B + 11.33 D + 5.41 P - 80.99 (\pm 28)$

As an illustration of the increasing accuracy of successive equations, we may follow a matriculating freshman who comes directly from high school (Prep.), with (Prep. decile)  $a = 5$ , (Psy. decile)  $c = 4$ , (first term GPA)  $d = 1.7$ , (hours passed first term)  $p = 16$ . The predictions of (final GPA)  $m$  at various times, and of (per cent completion for graduation)  $n$  are:

Before matriculation:  $m = 2.08$ , with 50 per cent probability it lies between 1.38 and 2.78

After matriculation:  $m = 1.93$ , with 50 per cent probability it lies between 1.34 and 2.52

(value of  $c$  lower than that of  $a$  reduces probability of high value of  $m$ , and addition of second variable restricts range of error)

After first term in University:  $m = 1.72$ , with 50 per cent probability it lies between 1.48 and 1.96

(lower value of  $d$  than expected lowers predicted value and still further reduces range of error)

$n = 41$ , with 50 per cent probability it lies between 1 and 81

(prediction that student will complete 41 per cent of work for graduation, with wide limits of error but strong improbability that he will continue to graduation)

The predictive machinery resulting from this study should be invaluable for students and their advisers. We could construct prediction tables for each high school in Oregon, by which the principal could read his pupils' prospects in the University from high-school grades alone. Similar tables including also results of the entrance psychological examination could be (and have been) used by faculty

s. advisers for new students entering the University. After the first term their prospects would be so well established that significant deviations below predicted norms would indicate to students, advisers, deans, and faculty committees the intrusion of serious obstacles to successful work. Psychological and social, as well as scholastic, difficulties might appear in their effect on academic work before coming to attention directly.

) The whole predictive procedure attempts to combine the information from all factors of known significance for ready application to any student. We cannot anticipate all the occasions when such concentrated data will be needed, but the main concern of the registrar's office must be the achievements and records of scholarship, and these data bring also pertinent information from the personnel field. In fact, this study operates to correlate and evaluate the information obtained and needed by all the persons concerned with student achievement in the University.

Of course this type of investigation is not original with us. Perhaps our contribution is the Hollerith card which fulfills so many purposes. Our Hollerith machine installation consists only of punch and sorter, and a larger set of equipment would modify the techniques and introduce automatic procedures still further to decrease clerical work. Really *the* important point is that personnel and academic records can be expertly and objectively summarized in ways of unforeseen importance, and that vital uses will appear on every hand when the techniques have been provided. Whatever the methods may be which are best adapted to each school, this type of service will earn the registrar more recognition as a researcher as well as recorder, and as an educational adviser as well as academic bookkeeper.

# Measuring Student Efficiency

RALEIGH M. DRAKE AND ELIZABETH WINN

## INTRODUCTION

It has been suggested<sup>1</sup> that, since intelligence tests are a good measure of a student's ability to succeed in college, they should also predict the degree of success as ordinarily measured by grades. If so, they should be of use to administrators in colleges in the following ways: (1) to determine whether students are working up to their innate capacity and achieving all that can be expected from them; (2) to determine whether low scholarship is due to lack of ability, or to such other influences as disinclination to work, inefficient study methods and habits, and emotional instability; (3) to lead to a better understanding of students; and (4) to appraise grading methods, or results, of individual teachers.

The use of test scores for the above purposes rests upon the following assumptions: (1) that the efficiency quotient (EQ)<sup>2</sup> technique is valid in theory and practice; (2) that the test employed is a good measure of student ability; (3) that grades in the long run are made according to mental ability; (4) that the grading is objective and on the basis of the work done; (5) that the selection of students in college is not so rigid as to make a skewed (non-normal) curve of distribution of abilities; and (6) that grades are defined and awarded as follows (or by some comparable system):

- A—Superior work
- B—Work above the average
- C—Average work
- D—Work below the average
- F—Inferior, or failing work

## PURPOSE

The purposes of this study can be outlined as follows:

1. To draw up a scale of mental ability scores which will correspond at different levels to the letter grades of A, B, C, D, and F, and to numerical grades where 90-100 equals A, 80-89 equals B,

<sup>1</sup> Ross, Clarence F., "The Relation of Teachers' Marks to Intelligence," *Bulletin of the American Association of Collegiate Registrars*, 1933, IX, 1, pp. 32-37.

<sup>2</sup>  $EQ = \frac{\text{Subject grade}}{\text{Otis grade}}$ . The numerator is the grade received in a given subject or for all subjects. The denominator is found from Table I.

70-79 equals C, 60-69 equals D, and 50-59 equals F. (For numerical calculation A equals 95, B equals 85, etc.)

2. To determine whether this scale corresponds to grades which already have been given in the past.

3. To determine whether the total student body approximates a normal curve of distribution of mental ability.

4. To determine, in general and in particular, whether teachers grade, on the average, according to the mental ability possessed by the students.

5. To make possible the application of the EQ technique to administrative problems.

#### METHOD

In order to secure a distribution of scores that would be representative of the entire student body, all of the scores from the Otis Advanced Examination Form B,<sup>3</sup> which was given to all freshmen entering Wesleyan College from 1929-33, were thrown into a frequency distribution. Using the Probable Error method where, in a normal distribution, 50 per cent of the cases will fall between  $\pm 1$  P.E., 16 per cent between  $+2$  to  $+3$  P.E., and 9 per cent above  $+3$  P.E., with the same percentages for the negative P.E. values, a scale of Otis scores and comparable letter grades (see Table I) was made as follows:

A = above 3 P.E. on Otis scale

B = between  $+2$  and 3 P.E. on Otis scale

C = between  $+1$  and  $-1$  P.E. on Otis scale

D = between  $-2$  and  $-3$  P.E. on Otis scale

F = below  $-3$  P.E. on Otis scale

If the Otis scale, thus drawn up, shows from actual practice that more failures occur at the lower end of the distribution than at the upper, or that the percentage of failures decreases as we ascend the Otis scale, we can conclude: (1) that the Otis test is a good measure of student ability, and (2) that the EQ technique is at least theoretically justified. To secure evidence as to whether or not failures do tend to be so distributed, the following procedure was employed. Using the total failures, numbering 389, that occurred at Wesleyan from 1929 through the first semester of 1933, and considering each score on the Otis scale as a ability level, a frequency distribution was made of the failures falling at each ability level and the per-

<sup>3</sup> For the year, 1930-31, only Form A was available.

TABLE I  
SCALE OF OTIS SCORES WITH COMPARABLE LETTER  
AND NUMERICAL GRADES

OTIS SCORE		LETTER GRADE	NUMERICAL GRADE
74	Above + 3 P. E.	A	99
73		A	98
72		A	97
71		A	96
70		A	95
69		A	94
68		A	94
67		A	93
66		A	92
65		A	91
64		A	90
63	+ 2 to + 3 P. E.	B	88
62		B	87
61		B	85
60		B	83
59		B	82
58		B	80
57	- 1 to + 1 P. E.	C	79
56		C	78
55		C	78
54		C	77
53		C	76
52		C	75
51		C	75
50		C	74
49		C	73
48		C	72
47		C	71
46		C	71
45		C	70
44	- 2 to - 3 P. E.	D	68
43		D	67
42		D	65
41		D	63
40		D	62
39		D	60
38	Below - 3 P. E.	F	59
37		F	59
36		F	58
35		F	57
34		F	57
33		F	56
32		F	56
31		F	55
30		F	54
29		F	54
28		F	53
27		F	52
26		F	52
25		F	51
24		F	51
23		F	50

tages computed. These percentages of failures were then compared to the corresponding percentages at each ability level of the entire student body, as measured by the freshman test results from 1929-33, and a ratio calculated between these two percentages. This ratio would be high if the percentage of failures at a particular ability level was greater than the percentage of students having abilities at this level.

The results of the above procedure are set forth in Table II. Column G shows the ratio of failures at different ability levels on the

TABLE II  
THE PERCENTAGE OF FAILURES AT EACH OTIS ABILITY  
LEVEL, IN PROPORTION TO THE NUMBER OCCURRING  
AT EACH LEVEL, AND THE RELATIVE RATIOS  
OF FAILURES AT DIFFERENT LEVELS

A	B	C B/427	D	E E/389	F E/C	G
64-63	13	.014	6	.014	1.00	
62-61	24	.056	3	.007	.13	1.26
60-59	24	.056	3	.007	.13	
58-57	28	.065	3	.007	.12	
56-55	41	.095	23	.058	.61	1.40
54-53	38	.091	24	.061	.67	
52-51	33	.078	19	.049	.63	
50-49	28	.065	36	.092	1.42	3.32
48-47	24	.056	28	.071	1.27	
46-45	30	.070	42	.107	1.53	
44-43	32	.074	28	.071	.96	4.82
42-41	20	.046	42	.107	2.33	
40-39	22	.051	44	.114	2.23	
38-37	16	.037	29	.073	1.97	7.20
36-35	9	.021	25	.023	3.00	
34-33	3	.007	11	.029	4.14	
32-31	3	.007	2	.006	.86	8.00
30-29	2	.005	6	.015	3.00	
28-27	1	.002	1	.002	1.00	
26-25	0	.000	0	.000	.00	10.00
24-23	1	.002	7	.018	9.00	

A—Otis score.

B—Frequency at each step-interval for all students from 1929-33.

C—Percentage of cases getting scores at each step-interval. There were 427 Otis scores representing the entering Freshman classes from 1929-33.

D—Number of failures from 1929 through the first semester of 1933-34 occurring at each Otis score step-interval.

E—Percentage of cases failing at each step-interval. There were 389 failures (courses failed—not number of students) from 1929 through the first semester of 1933-34.

F—Percentage of failures at each step-interval in proportion to the percentage of students (approximately, because the frequencies would change slightly due to shifting of students each year) at each step-interval.

G—F ratios grouped by threes to bring out the general trend.



Otis scale. There are eight times as many failures at the low end of the scale as there are at the highest part of the scale shown here. No failures occurred with students having Otis scores above 64. It is very likely that the true ratio is even higher than shown here because at the very low ability level students fail early and drop out of school early, thereby making the number of failures at this level smaller than if they had remained a whole year or more.

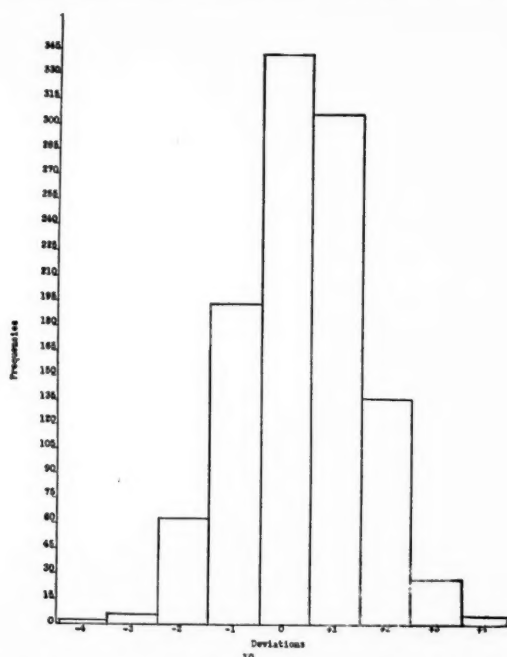


FIG. 1. The distribution of deviations from zero using the EQ technique for all grades given at Wesleyan College, first semester, 1933.

To determine whether the scale of mental abilities represented in Table I corresponds to grades already given, the EQ technique was applied to all grades for the first semester, 1933-34. Each grade was compared with the student's mental ability on the Otis scale, as follows: if a student whose mental ability was of B grade made an actual grade of B, his grade would not deviate any from that expected of him, and the result would be zero; but if he made a grade higher or lower than his mental ability on the Otis scale, the deviation would be the difference between the two grades. These devia-



tions were calculated for all grades and the results thrown into a histogram (Figure 1). Theoretically, a perfect agreement between actual grades and mental ability grades would be represented by one zero column; the figure shows that the plus and minus deviations from zero are distributed according to chance factors, and that, on the average, the grades are distributed according to mental ability, though the fact that the figure is skewed to the right shows a tendency for the grades to be a little higher than the mental ability indications of the scale. From this skewing we must conclude either that the grading is too liberal, judged by the Otis measure of the students' abilities, or that the students are working with such industry that they are achieving better results than would be expected of them.

Since we find from a typical example that grading is, in general, done in accordance with mental ability, we are justified in employing the EQ technique as an aid in the handling of student problems of a scholastic nature. The following method of application is suggested. If the student's average grade is found to be the same as his mental ability on the Otis scale, his EQ would be 100

( $EQ = \frac{\text{Subject grade}}{\text{Otis grade}}$ ). If his ability is B and his actual grade A, his

EQ is 111; if his ability is C and grade A, his EQ is 126, indicating that he is working above his mental ability level by one or two steps. Likewise, if his ability is one step higher than his grade, his EQ is 89 and so on, showing that he is probably not working up to his level. Information of this kind could not, of course, be relied upon too absolutely, but it should be very helpful in throwing additional light on student problems and especially useful in dealing with students whose grades are low. If a student making poor grades is found to be working up to the level of his mental ability, he evidently does not need strict disciplinary measures imposed to insure his devoting more time to his studies. On the contrary, he should probably be advised to drop one or more of his subjects. On the other hand, a student making poor grades who is not working up to his level may need just such discipline.

Following the method suggested by Ross,<sup>4</sup> histograms such as that of Figure 1 for the entire student body were also made for each individual teacher. The results revealed wide variations in teachers' grading, as shown in the samples given in Figures 2 through 5.

<sup>4</sup> *Op. cit.*

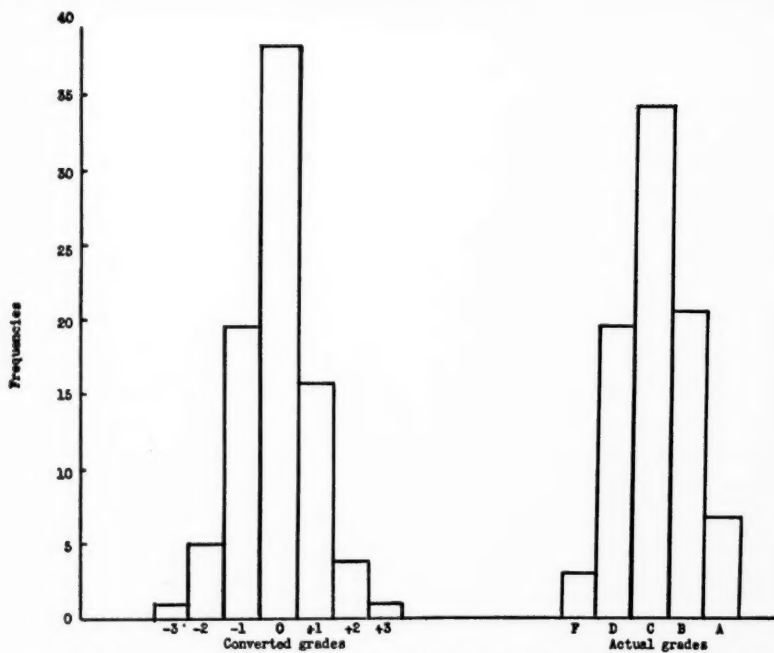


FIG. 2. Comparison between distribution of actual grades for Teacher A and the same grades distributed according to deviations from Otis ability grades. Number = 86.

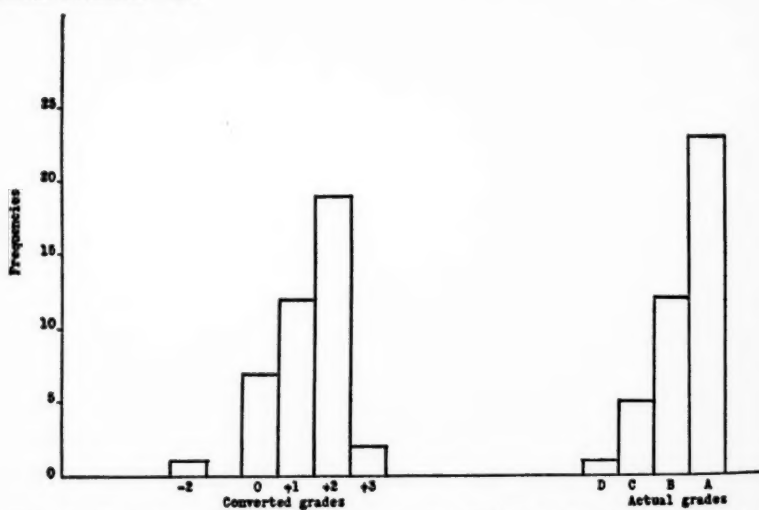


FIG. 3. Showing comparison between distribution of actual grades for Teacher B and the same grades distributed according to deviations from Otis ability grades. Number = 41.

Figure 2 shows a good normal distribution both as to actual grades and to these grades converted into the distribution relative to intelligence. The figure indicates that the teacher's grading bears a close relation to the abilities of his students.

Figure 3 shows a skewed distribution of actual grades, with the converted grades upholding the conclusion that the teacher is grading with unusual liberality.

Figure 4. Here we might expect to find, from the large number of B and A grades, that the converted grade graph would be skewed to the right. This is not, however, the case. Rather the minus deviations balanced exactly the plus deviations. While the zero column should be higher to show grading strictly according to intelligence, still this teacher is not grading too liberally, as his actual grades would make it appear.

Figure 5 compares two graphs, one of which shows a very wide range in the converted grades, indicating grading with little relation to intelligence, and the other a narrow range, showing rather accurate grading according to ability. These teachers happen to be the two who had the largest number of students, Number 1 having a slightly larger total than Number 2. This figure is an example of what a study of all the graphs seems to indicate: that the number of cases has little, if any, relation to the amount of scattering of the converted grade graphs.

A study of such a graph as that of Teacher Number 1 in Figure 5 may lead to two interpretations: either this teacher is giving his students work which is much below the standard which they are capable of meeting, or he is a very excellent teacher, with the ability to inspire his students to such effort that they work at a pace which might be said to be beyond their general ability levels. A method might be devised of determining which of these alternatives represents the true situation for a given teacher by the use of a questionnaire to be filled out by students rating the teachers on the strictness of their grading. If teacher Number 1 in Figure 5 were generally rated by his students as a hard grader, we could consider the second explanation given above the true interpretation of his grade curve.

It appears then, that, for use in the appraising of teachers' grading, the EQ technique is a valuable tool, to be employed, not as a final measuring rod, but at least as an indication, and as a start which gives the necessary basis for further study. Kelley's<sup>5</sup> criticism

<sup>5</sup> Kelley, T. L., *Interpretation of Educational Measurements*, Yonkers-on-Hudson: World Book Co., 1927, pp. 21ff.

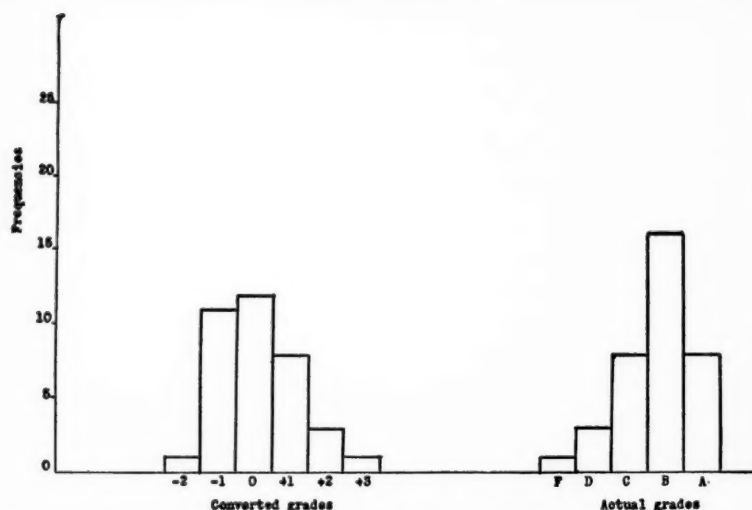


FIG. 4. Comparison between distribution of actual grades for Teacher C and the same grades distributed according to deviations from Otis ability grades. Number = 36.

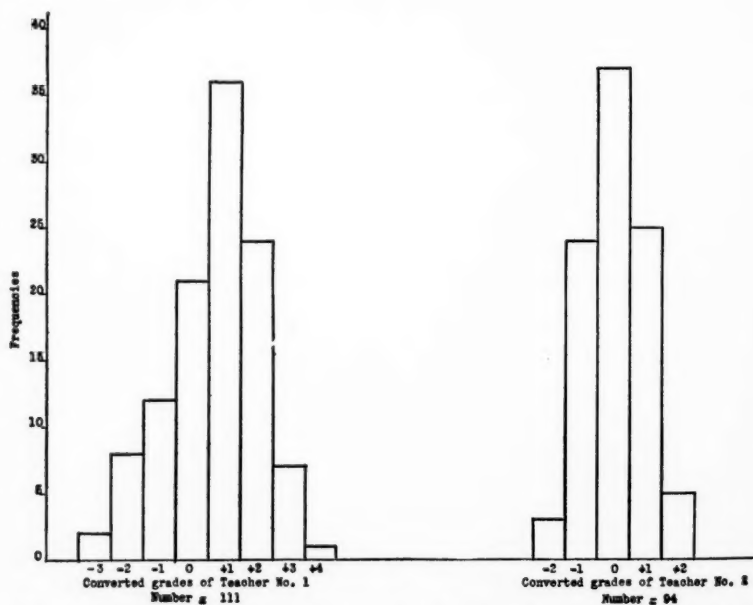


FIG. 5. Comparison between a teacher having few grades that deviate from the Otis grade with one having many deviations. The smaller the range and number of deviations from zero, the greater is the correspondence between grades given by the teacher with ability grades according to the Otis scale.

of the statistical accuracy of the AQ technique applies just as well to the EQ technique and should be kept in mind when interpreting individual EQ's. The EQ technique furnishes us, however, with a method, not afforded by a study of the actual grades alone, for determining the *fact* that a teacher's grades appear too high, which knowledge we must have before we may search for the significance of that fact.

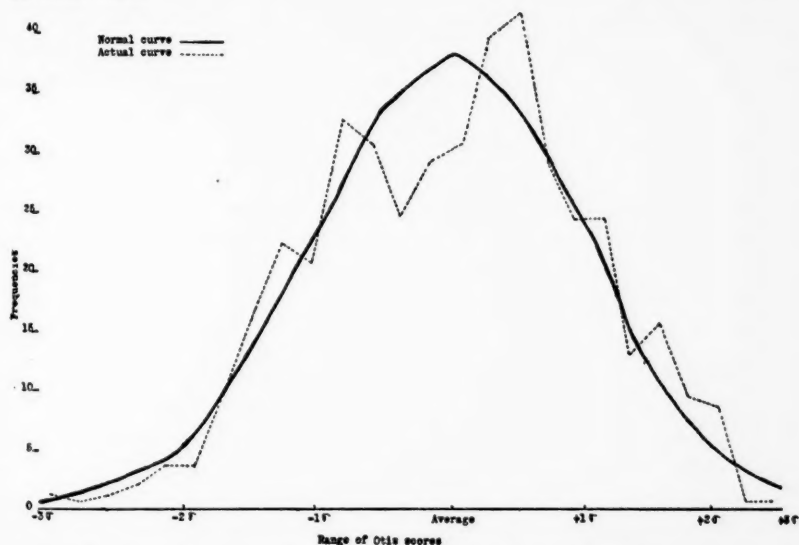


FIG. 6. Normal curve and actual curve of distribution for Otis scores given to freshmen, 1929-33.

Finally, the actual distribution of Otis scores from 1929-33 was compared to the normal curve of distribution, with the results shown in Figure 6, revealing a fairly normal distribution of intelligence among Wesleyan students.

### RESULTS

1. There are more failures occurring with students having low Otis scores than with those having higher scores. Table II shows that there are eight times as many failures among students who have scores between 23 and 29 than among those having scores between 59 and 65, and that no student with a score above 64 failed.
2. Grades are, on the average, distributed according to mental ability. Figure 1 shows that the distribution is skewed to the right, which means that students are securing grades a little

higher than comparable mental ability grades on the Otis scale, due either to particularly hard work on the part of the students or to a general liberality in the grading of teachers at Wesleyan College.

3. The distribution of mental ability at Wesleyan College is practically normal. (See Figure 6.)
4. The EQ deviations for different teachers showed wide variations. (Figures 2-5.) Evidently some teachers are either very lenient in their system of grading or the amount of work required is so small that all students find no difficulty in preparing it, or their teaching is very superior.

#### CONCLUSIONS

1. The six assumptions given in the Introduction are either in whole or in part substantiated. In particular, the EQ technique is valid enough to be useful as a suggestive administrative tool.
2. The variability between grades given by different teachers should be able to be reduced by pointing out their tendency to be either too liberal or too severe, using graphs such as those of Figures 2 through 5.
3. The EQ technique provides a valuable objective basis for determining the cause of poor scholarship and remedial or disciplinary measures can then be administered with greater understanding; those having high EQ's probably should drop one or more courses while those having low EQ's should have certain restrictions calculated to induce more time given to studies.

# The Scope and Aim of a Personnel Program

FRANCIS F. BRADSHAW

Since the scope of a program of any sort must be determined by its aim, or aims, I shall deal first and foremost with the aims of educational personnel work at the college and university level. These aims grow out of the general aims of American educational tradition, in accord with which the college is responsible for furnishing service to its students over and above classroom instruction. Arm-chair thinkers day-dream of a release from this responsibility in order that the faculty members may receive the total income of the institution for salaries and supplies and give in return scholarly lectures and occasional advice relative to their field of study. However, the student gets sick, has no money, goes slack because of vocational anxieties, encounters poor study conditions, becomes dissipated by unwholesome recreations, rebels against misunderstood university regulations, registers for the wrong level of French instruction, is harassed by debt, finds the moral and religious universe of his childhood too rudely shattered, or is home-sick or love-sick; and any of these may entirely negative the best of instruction. The American college has been sufficiently practical-minded to realize that instruction itself demands allied services to the student. The student cannot be sent to college without bringing his body, emotional status, and moral make-up with him. Nor can his mind function without regard to the status of other aspects of his development. The practical wisdom of the American tradition seems incontrovertible. All theory of release from it seems to the writer to be 100 per cent wishful thinking on the part of the faculty. And this conclusion is based not on the interests of parents, students, alumni, and trustees, but solely upon consideration of the teaching effectiveness of the institution—the interest of the faculty itself.

Until approximately 1900 the policy described above expressed itself mainly in two directions; namely, on the one hand, many faculty meetings, faculty committee meetings, and faculty-student interviews devoted to the problems listed above; and, on the other hand, the gradual absorption of college presidents in such problems. Then, as the colleges grew in size and the faculty became increasingly unwilling to spend time on such matters not directly germane



to their teaching and research, there arose additional administrative provisions, viz., academic deans, registrars, deans of men and women, student advisers, student associations (religious and secular), guidance bureaus, infirmaries and health officers, psychological consultants, psychiatric experts, etc.

In the beginning such administrative duties as dealt mainly with students were primarily regulatory and disciplinary. Gradually they became conceived of as prophylactic and morale building. In addition, they have come to be considered definitely and directly educational as dealing with the total needs of the total student personality. Finally, they have come to be thought of as mediating between general curricula or regulations on the one hand and the limitless individualities of motives, needs, and abilities on the other hand. In all this development, however, there has been no element of the program that could not *theoretically* justify itself in terms of service to the teaching faculty through release of the teaching staff from duties they were least interested in performing, and through delivering the student to the classroom in the optimum condition for profiting by instruction.

The foregoing running start from history is taken in order to afford for our discussion of aims and scope a standard for validating such aims. This standard would probably be acceptable to all if we define student personnel service as all non-instructional service to students which demonstrably increases the effectiveness of instruction. When the personnel service introduces a placement test in French which reduces student mortality 25 per cent, such increased effectiveness is immediately obvious. More adequate admissions programs or sanitary inspection of student residences may have less obvious but equally real value to the instructional objectives of the institution.

There is one point in this historical summary that has been omitted—namely, the introduction of the term "personnel." Probably this term was not used in college circles until after 1917. The term has been used in many senses since that date. H. D. Kitson published in 1917 a monograph supplement of the *Psychological Review* entitled "The Scientific Study of the College Student." The application of social case work methods, psychological techniques, and more refined statistical methods of handling data on large groups began to demand a new term for a new administrative point of view.

L. B. Hopkins, in a study of personnel procedure in education,<sup>1</sup> listed the functions of personnel work as including: selective process, freshman week, psychological tests, placement tests, faculty advisers, other organized student interviews, health service, mental hygiene service, vocational information, employment and placement, discipline, curriculum improvement, selection of instructors, improvement of teaching methods, objective examinations, research concerning teaching, research concerning the individual, co-ordination of personnel services in the college and the whole institution, and co-ordination of outside agencies affecting students.

The general aim embracing the functions listed above, Hopkins presented as follows:

The concept I have had before me has been that it means work having to do specifically with the individual. In education one might question how this differs from the concept of education itself. I do not assume that it does differ. However, other factors constantly force themselves on the minds of those responsible for administration. In industry, it would be fair to say that management must concern itself with raw materials and output, with buildings and equipment, and with innumerable other items. So also in education, the administration is beset with many serious problems and certain of these problems become so acute at times that there is danger that they may be met and solved without sufficient consideration for their ultimate effect upon the individual student. One of the functions, therefore, of personnel administration in education is to bring to bear upon any educational problem the point of view which concerns itself primarily with the individual. Thus, in this particular as in all others, personnel work should remain consistent with the theory and purpose of education by tending constantly to emphasize the problem that underlies all other problems of education; namely, how the institution may best serve the individual.

Esther Lloyd-Jones, in 1929,<sup>2</sup> elaborated the position that educational personnel was a major division of university work equal in importance and unity to teaching and finance.

R. C. Clothier, as Chairman of a Committee on Policy and Procedures and Standards of the American College Personnel Association, included in his report in 1931 the following principles of educational personnel work:

1. Every student differs from every other student in aptitudes, inherited or acquired. . . . The college must know these qualifications so far as it is possible to do so and must utilize that knowledge in planning his college course, both within and without the curriculum. . . .

<sup>1</sup> "Personnel Procedure in Education," *Educational Record*, VII, 3 (October, 1926).

<sup>2</sup> *Student Personnel Work at Northwestern*.

2. Every agency within the college should consider these differences between students. . . .

3. The Personnel Department, under the Personnel Director, is responsible for the development of this point of view throughout the organization . . . .

4. Each college should provide adequate facilities—in terms both of procedures and equipment—for the maintenance of harmonious and effective relationships among students, faculty members, and administrative officials . . . .

M. E. Townsend, in 1932, studying "The Administration of Student Personnel Services in Teacher Training Institutions of the United States," describes the function of personnel as follows:

Personnel is a new term. On the other hand, the province of personnel is as old as the establishment of society itself. As the name itself indicates, personnel is concerned with those inquiries about and those relationships toward persons—as persons—carried on primarily for the purpose of insuring human effectiveness in productive work. It is of course interested in the skills, informations, and techniques already mentioned, but essentially with a view to establishing proper physical, mental, emotional, social, and ethical readi-nesses within the human being who is to do the work, to the end that these factors may serve the worker in a positive, constructive manner in the pursuit of the activity. The personality pattern of the individual at work is its legitimate field.

President Townsend calls attention to the fact that the term "personnel" is so recent that, with one unimportant exception, it does not appear in the *Readers Guide* until the volume of 1919-21. He says further:

. . . . Just what forces combined to change the emphasis in industry and in all fields of vocation from the task to be done to the doer of the task, is not very difficult to discern. Until the first decade of the twentieth century psychology—one of the basic instruments of investigation in this field—was practically unprepared for the task. The rise of the testing movement, largely experimental and academic at first, provided practical means at hand for the further refinement of the techniques of research in the field of personality. And upon the accumulation of authentic and usable information about personality itself all of personnel as a scientific procedure depends. That one stands at present in possession of anything like a fully competent body of predictive or diagnostic procedures in this field is far from the truth. But important beginnings have undoubtedly been made. . . . The interview, the case history, tests, measures of relationship between significant personal conditioners, the survey, the controlled experiment, are familiar procedures, whether the personnel researcher is inquiring within the fields of the skilled trades, engineering, medicine, civil service, or teaching. The fact that personal factors affecting accomplishment are relatively more easily discernible, and bear a more direct relationship to output, in terms of goods produced or goods

sold, has probably resulted in more investigation being carried forward within the general field of commerce and industry than within those fields of service where results are more intangible, and more complicated by delay of fruition, or by the operation of extraneous factors, as is the case with the professions.

Although "personnel" did not appear in the *Readers Guide* before 1919, W. H. Cowley, of Ohio State University, was able in 1932 to issue a volume entitled *The Personnel Bibliographical Index*. To prepare the Index it was necessary to read 4,902 books, articles, monographs, and pamphlets, of which 2,183 are annotated and indexed in the resulting volume.

Dr. Cowley, who had just previously devoted considerable time to the development of techniques for making surveys of personnel work in universities, bases his volume upon five assumptions concerning the aims and scope. In abbreviated form these assumptions are as follows:

1. Student personnel administration is not analogous to industrial personnel administration. The accepted function of industry, perhaps incorrectly, is the production and the sale of goods and services. Individuals are contributors merely. In education, however, the individual takes the center of the stage. His training and development are the *raison d'être* of the college. All units of the college staff make their contribution toward the common end. The Personnel Division is one of these units, performing its specialized services toward the education of the student.

2. Personnel administration is one of four main divisions of university administration. As educators become interested in and cognizant of the development of management techniques in industry, they are recognizing that college or university administration may be classified functionally in at least four divisions: operational (or business) administration, instructional administration, research administration, and personnel administration.

3. Recognizing student personnel administration as a major functional division of university administration, we may define it as the administration of all university-student relationships *aside from formal instruction*. . . . These include counseling of various types, medical attention, supervision of extra-curricular activities, administration of admissions, of intelligence-testing programs, of housing, and so forth. Moreover, these functions group themselves together as thoroughly different from formal instruction, and as a group they are generally thought of as personnel services.

4. Ideally, every instructor is essentially a personnel officer, but he must depend upon specialists to perform certain personnel services for which he is untrained. In the best of possible colleges every instructor would be individually interested in the students under his direction, but he cannot treat them when they are ill, nor counsel them concerning complex vocational problems, nor administer loans and scholarships, nor direct intelligence-testing programs, nor undertake responsibility for a number of other personnel services.

5. Student personnel administration divides itself logically into individualized services, administrative services, personnel research, and co-operative research services.

a. Individualized personnel services include educational counseling, vocational counseling, personal adjustment counseling (namely, social counseling, psychological counseling, and religious counseling), discipline, placement both part-time and permanent, health counseling, and loans and scholarships. In all of these relationships the individual student has the center of the stage. The contact between the personnel officer and the student is always a face-to-face and one-to-one contact. It is seldom a group relationship. One may properly, therefore, group these functions together and label them individualized personnel services.

b. Administrative personnel services include admissions, freshman orientation, intelligence-testing programs, supervision of extra-curricular activities, housing, personnel record-keeping, and supervision of social life. It may frequently happen, of course, that these administrative personnel services may also be individualized personnel services, but in general they are administered for groups of students rather than for individuals. They are, therefore, set apart from the individualized services because of their distinctive and more or less impersonal emphasis.

c. Personnel research takes in all types of investigations of individualized and administrative personnel problems. The effective administration of both individualized personnel services and administrative personnel services requires continuous research in problems as diverse as they are numerous. No ideal personnel program can be conducted without research. The function is so important that it must be recognized as a major classification of personnel administration.

d. Co-operative research services are those research services per-

formed for departments of instruction. Although by definition a clear-cut distinction is made between instructional administration and personnel administration, it frequently happens, and very likely must continue to happen, that the personnel organization conducts research for instructional departments in problems of two general types:

(1) The measurement of students for sectioning on the basis of ability, for honors courses, for the discovery of gifted students, for the prediction of scholarship, and for similar instructional purposes.

(2) The development of techniques for probation courses, remedial instruction, how-to-study course, orientation courses, and the like.

Ruth Strang has just published the first of a projected four-volume series to summarize what is definitely known in regard to educational personnel. The organization of the material in the series is as follows:

*Volume One. Administrative Aspects and Educational Guidance.*

- A. Personnel work in education
- B. Selection and orientation of students
- C. Educational guidance

*Volume Two. Individual Counseling.*

A. Facts about students—their intelligence, achievement, use of time, use of money, social background, opinions, attitudes, interests, problems and needs, and personality traits

- B. Disciplinary problems
- C. Financial aid—part-time employment, loans, scholarships
- D. Technics of work with individuals
- E. Records

*Volume Three. Control of the Student's Environment and Supervision of Group Activities.*

- A. Health programs
- B. Housing
- C. Religious programs
- D. Social life

*Volume Four. Vocational Guidance.*

Not only has this item of "personnel" appeared in *Readers Guides*, indexes, and research summaries, but it also is an important section of the *Manual of Accrediting Procedures* of the



North Central Association (1934). The accrediting committee proposes to examine the adequacy of what it calls "Student Personnel Service," under which heading it does not include "Admission and Orientation of Students," but does include "Student Records," "Counselling Procedures," "Extra-curricular Activities," "Loans, Scholarships and Grants-of-aid," "Health Service," "Housing and Boarding of Students," "Placement Service," "Student Discipline," and "Administrative Arrangements" whereby the various types of student personnel service are effectively co-ordinated. Under this latter heading the admission and registration of students is included in the group of functions to be effectively correlated.

I have called attention to these various statements just quoted in order to avoid settling down on any one point of view in regard to a movement still in its formative stages. I believe we will need to wait for Dr. Strang's fourth volume before anyone can fairly answer the question, What is the proven value of this movement? I am willing, however, to record some convictions as to valuable trends within the movement. I am confident the following are clear gains and worthy of development at any institution:

1. The emphasis on the essentiality of certain services to students.
2. The grouping of these together to form a single general function calling for special staff with special qualifications, training, etc.
3. The realization of the existence of ultimate individual differences in student needs and aptitudes, and their radical importance for instruction and adjustment.
4. The adoption of scientific techniques in the study of individual problems and institutional processes.
5. The realization of the unity of student personality and the necessity of dealing with each student at each contact as a total person—an end in himself, and never a mere abstraction or a means to an end.
6. The necessity for continuous research and revision in the work of an educational institution instead of periodic and explosive re-planning, followed by periods of static and routine administration of unchanging plans.

Furthermore, I believe that this movement is thoroughly appropriate to the present nature of American civilization which is trying in all its institutions of government and business, as well as education, to substitute science for guess work, humanistic values for



unrestricted institutionalism, and continuous development for cataclysmic alternations of repression and revolution. It is part and parcel of the unique effort to create a better relationship between individuals and institutions that is central in the American way of life.

Finally, then:

1. To correlate all the institution's non-teaching contacts with students;
2. To focus all the resources of the institution in the unique way needed by each individual student;
3. To substitute scientific for pre-scientific techniques in understanding and guiding students as rapidly as such techniques become available.

These constitute the essential aims and determine the scope of educational personnel work.

#### CRUCIFIXION DE LUXE

The president of a Baptist college in Kentucky recently had some difficulty with the brethren because he had been baptized in another church and had not been rebaptized when he joined the Baptist Church. The Baptist Association in Kentucky demanded that he be rebaptized or resign. He did neither, and the Baptist ministers who shared the sentiments of the Association began preaching sermons on "Alien Immersion."

A few months later this college president, with his dean and another member of his faculty, had occasion to call upon Mr. Gillis, who is a member of the church in which the alien immersion had taken place. He announced, in a spirit of good humor, that they had come to crucify him, and wanted to know whether he preferred to be crucified with his feet down or with his head down. Mr. Gillis replied that he gave not a d—— how it was done, but he wanted it done by the right people so that it would not have to be done over.

# The Library in the College Catalog

W. C. HAYGOOD AND SISTER CECIL

That the college catalog is a legal contract between the recruiting institution and the student has been found and upheld by the New York Courts in 1891, and the Courts of Oregon, 1914, in decisions which, in summary, declare that the issuance of a catalog stating requirements for admission, graduation, and degrees, and setting forth objectives and advantages of the institution, constitutes a contract. In order to test the adequacy and accuracy of the current college catalogs, in the dual light of contract and of honest, intelligent academic advertising, this study was conducted, with the emphasis placed entirely upon one specific unit of the instructional set-up; namely, the college library, and the manner of its presentation through the medium in question.

For the purposes of this overview sixty liberal arts colleges were selected, twenty of which are on the approved list of the American Association of Universities, twenty of which hold accreditation from their respective regional standardizing associations but not from the A.A.U., and twenty of which hold only state or local accreditation and are not members of their regional associations. Geographically, the institutions are distributed rather equably over the New England and Central, North Central, Southern and Pacific areas, giving what was felt to be an adequate sampling of excellent, good, and poor institutions. In addition to these sixty colleges which were treated extensively, the catalogs of some two hundred and seventy-eight other institutions were examined for details of erroneous phraseology, patent exaggeration, and for purposes of general comparison.

To consider what features the compilers of catalogs consider of sufficient importance to include, the following table was prepared, recording the information given about the library together with the number and percentages of institutions giving each item.

The slight per cent of agreement indicates that there is little unanimity of feeling about what should and what should not be said about the college library.

It is exasperating to find catalogs devoting whole paragraphs to minute descriptions of the architectonic features of the library, only to dismiss with a few casual lines the paramount factor of the book

FREQUENCY OF APPEARANCE OF LIBRARY ITEMS IN THE  
CATALOGS OF SIXTY LIBERAL ARTS COLLEGES

ITEM	No.	PER CENT
Number of volumes . . . . .	42	70
Number of periodicals . . . . .	21	35
Endowments and gifts . . . . .	20	35
Number of pamphlets . . . . .	16	26
Facilities in other libraries . . . . .	16	26
Hours open . . . . .	15	25
Location . . . . .	15	25
System of classification . . . . .	13	22
Access to stacks . . . . .	12	20
Number of books in reference room . . . . .	10	17
Staff and training . . . . .	8	13
Annual additions . . . . .	8	13
Departmental libraries . . . . .	8	13
Number students accommodated in reading room . . . . .	7	13
Government depository . . . . .	6	10
For the use of citizens . . . . .	5	8
Type of architecture . . . . .	5	8
Reserve shelves . . . . .	4	6
Library fee . . . . .	3	5
Fines . . . . .	1	1

collection housed therein. It is surprising indeed to discover that it is frequently completely impossible to get at the simple, salient fact of the library's holdings through the catalog. Two of the most excellent institutions of the midwest, whose catalogs contain lengthy and well-conceived statements of the library's aims and activities, omit this essential item.

A Kentucky college, which has, on the whole, one of the best organized and neatest catalogs examined, gives the following typical and inane write-up:

The library is a three story (*sic!*) building of appropriate design, with ample stack room space, main reading room, freshman reading room, and all conveniences for administering a library. Its well selected collection of books and periodicals affords superior opportunities for reference and study.

Note that no mention is made of the holdings.

More than slightly suggestive of lavender and old lace is this description by an Ohio college, beginning, "Two of the cheeriest rooms on the first floor of the Main Building are used for the library and reading room," and ending with the none too subtle suggestion that "a good book is always an acceptable gift."

Typical also is this write-up of a Southern school:

In the spacious reading room there are a large number of newspapers, secular and religious, and many of the best magazines of the country. In addition to reading rooms, the library affords space for store rooms and a book room.

The nice defining of a "book room" should prove both piquant and puzzling to the average librarian.

One case was found in which the catalog advertised that the library was in charge of a "trained and competent staff," and yet no librarian was listed either under faculty or administration.

Other general phrases which appear with sufficient regularity to cause irritation, are variations of such ones as "the library possesses about 21,000 live and well administered books," "a magnificent library," "adequate book collection," "offers advantages similar to those offered by any up-to-date college library," and so forth.

Presumably, as an assurance of compliance, many catalogs follow the wording set forth in the library standards of the accrediting agencies in an unanimity of undistinguishing slavishness.

There is a pronounced tendency to include in the college catalog the names and statistics of all libraries in the vicinity, thus achieving a comfortable impression of magnitude. Other libraries in the town or city are certainly important sources of book supply, but the impression of extension which some of the catalogs seem to imply is dissimulative. One catalog fails to mention its own college library, but states that the campus is directly across the street from the public library. Another observes that "experts agree that the city library is the same thing as adding several thousand volumes to the college library."

Discrepancies are found in the number of holdings given in the catalog when checked against those figures published in the report of the United States Office of Education. Some libraries are found to be using the same statistics year after year, and others are found to have decreased appreciably in size since 1929, although their acquisitions were *sharply rising*! Similarly, data in the catalogs were checked with information furnished by forty of the colleges to the inspector for the Carnegie Corporation's Advisory Group on College Libraries, with the result that startling inequalities of balance were revealed. In twenty cases the number of volumes held by the library, as reported in the catalog, were in excess of the number reported by the advisory group, varying from a divergence of 5,000 volumes to the extreme of 15,000 volumes. Annual additions of 1,000 volumes were reported in some catalogs, and yet the book collection was listed as 20,000 for 1933 and 25,000 for the year following.

In another vein, it was found that in only two cases out of five

did the catalog maker and the inspector for the advisory group agree on the adjectives employed to describe the library. One catalog characterized the building as a "magnificent, up-to-date structure" when in reality it was an old remodeled chapel.

One unfortunate omission in many catalogs is caused by the failure to include the library as an item in the index. When it is included, often the entry is under some comparatively useless heading, such as "Building and Grounds," or under a personal name when the library perpetuates the generosity of a donor. An instance of this practice is exemplified in a catalog which indexed the Redpath Library under the name "Redpath" only, thus rendering the index worthless to anyone unacquainted with local terminology.

Whether the librarians in the main are responsible for the way in which libraries are currently described in the catalogs is a question which is open to some doubt in view of the fact that certain erroneous terms such as "steel stacking," "book room," "A.L.A. classification," are to be noted. But it is beyond question true that it is the duty of the librarian to concern himself actively in the published presentation of his organization, to formulate concrete aims, to outline the instructional services of his library, to prepare a dignified, intelligent resumé, and to see that it is placed in the hands of the registrar, or other editor of the catalog. And, likewise, it is the duty of the editor of the catalog to see that such a statement is presented by the librarian.

As for the question of how much space the librarian can expect in the college catalog, analyses of the booklets studied showed a variance of from three to eighty-one lines, the average being twenty-one. The best catalogs devoted between eighteen and twenty-five lines to the library, and the one which said the least consumed seventy-five. Twenty-one lines in the average-sized catalog should be adequate to give necessary information about the college library.

From the study of these catalogs, from experience in attempting to unearth elusive data from discussions with college administrators and librarians, and from considerations of the pragmatic value of effective advertising, it would seem that the college catalog should contain minimumly the points outlined below. Special features, such as whether the local citizenry is allowed the use of the library and the description of special collections, should be left to the discretion of the librarian. However, the catalog is assuredly not the place for disclosure of rules governing fines, withdrawals, etc. These

are items which should be incorporated in a library handbook which will give fuller and more satisfactory information concerning the machinery of the library than the limited space of the catalog affords.

The tabulated items are ones, which it is reasonable to suppose, that parents, research workers in education and related fields, superintendents of high schools and prospective students and donors have a right to know about the college library in the same proportion that they are informed about stadia, laboratories, swimming pools, and other educational equipment of the institution.

1. Location, date of establishment, donors and founders.
2. Number of volumes, bound and unbound, and ultimate capacity of the stacks.
3. Periodicals, English and non-English, subscribed for and number bound.
4. Hours open.
5. Training and qualifications of the staff, if not given under the faculty and administration heading.
6. Number of students accommodated by the reading room.
7. Access to stacks.
8. Facilities of other libraries in the vicinity.
9. Amount of money spent annually, or the number of annual additions.
10. Endowments, grants and gifts.

The fruits of this study make the conclusion inevitable that if the advertising offered by institutions through their catalogs concerning the advantages to be expected from the college library has had any weight in attracting students, hundreds of young men and women now enroled in colleges all over the United States would be amply justified in bringing charges of deliberate misrepresentation against their respective Alma Maters. For nowhere else, except in the lush passages relating to the beauty of the college campus, or the pristine qualities of the college drinking water, does the descriptive power of the catalog maker become so lyric, so vague, so misleading, and so uninformative. And it is not alone the small, poorly equipped and struggling college which seeks to conceal its defect behind a screen of equivocal generalities or complete omission. Oddly enough, some of the largest and strongest schools in library development are among the most inexcusable offenders.



## Proficiency Examinations at the University of Illinois

G. P. TUTTLE

In 1932 the University of Illinois established a plan of proficiency examinations for advanced standing in elementary courses (i.e., freshman courses) in English, foreign languages, hygiene, mathematics, the natural sciences, and the social sciences. The examinations give credit toward the degree, provided there is no duplication of credit counted for admission to the University and provided the student receives a grade of at least C. The examinations are provided without fee and are administered by the various departments concerned. The examinations in rhetoric and hygiene are regularly scheduled each fall as a part of the freshman week program and, up to the fall of 1935, have been required of all freshmen. Examinations in other subjects are offered early in each semester upon application by students.

The examinations, of course, furnish an opportunity whereby credit may be earned by students who have done work in unaccredited institutions or in other ways not accreditable by certificate. The primary purpose in offering them, however, is to encourage the better students to do independent work. Quite frankly, it is felt that this can best be accomplished by offering the usual academic credit for passing the examinations. Furthermore, with reference to the examination in rhetoric, which, like the required freshman courses in the subject, is primarily a test in writing, it is felt that if some of the better high schools are sending their best students to the University adequately skilled in written composition, that fact should be determined by test, and such students should not be required to take the freshman course in rhetoric and composition. Also it is felt that such ability gained in high school should be considered not as duplicating in any way the University entrance requirements in English. Therefore, a student who passes the proficiency examination in rhetoric receives credit toward the degree regardless of the number of entrance units he may present in English. Likewise, with hygiene, if the student comes to the University with a sufficient knowledge of the elements of personal and community hygiene and sanitation to permit him to pass the proficiency examination, it is not considered that credit received in this way duplicates to any serious extent any high school units that he has presented.



Recently a study of the examination results during the past three years has been made. As a consequence of this study two major modifications in the examination rules went into effect in September, 1935:

1. The examinations in rhetoric and hygiene were made optional. The percentage of passes under the plan of requiring all freshmen to take the examinations has been so small that it has seemed unwise to continue the obligatory feature. It is believed that those best prepared will continue to take the examinations in any case. A place in the freshman week program is reserved still for these examinations.

2. The proficiency examination plan was extended to include not only freshman courses as heretofore, but also all sophomore courses. In other words, the University is prepared to offer these examinations in all courses below the senior college level. Furthermore, a student may obtain the privilege of taking proficiency examinations in more advanced undergraduate courses on recommendation of the Head of the Department and approval of the Dean of his College, though this will have to be by special arrangement in each individual case.

This is not a cheap way to obtain easy credit. It should be noted in the first place that the student must receive a grade of at least C to pass. That is to say, a grade of D in class work which will count, to a limited extent, toward the degree, will not give proficiency examination credit. Secondly, the examinations are the full equivalent of the regular semester examinations, and in some instances are probably somewhat more severe. In the third place, statistics show that it is the good student only who is benefiting by the examinations. It is felt that the training in independent study gained in preparation for the examinations by these students far outweighs any objectionable features that may conceivably be present in the plan.

The facts which were before the University Senate last spring when it voted an extension of the proficiency examination plan may be of some interest.

A study was made of the records of students registered in the University the second semester of the academic year, 1934-35, whose names begin with the letters A through C, to determine the extent to which they had gained credit through proficiency examinations. It should be noted that this was not a random sampling, but that

the complete file of names in the three letters A, B, and C was used. There were 1,980 student records in the study. In this group of 1,980 students it was found that 161 or 8.13 per cent had passed one or more proficiency examinations. The average number of hours earned per student was 3.76; the largest number of hours earned per student was 18 and the smallest number was 2.

The records of these one hundred sixty-one students were then studied in detail. At the University of Illinois the grading system from highest to lowest is A, B, C, and D, with E the failing grade. For the purpose of averaging grades 5 is substituted for A, 4 for B, 3 for C, 2 for D and 1 for E. Hence a 5.0 record is a perfect record. The University average for all undergraduate students in the first semester of the academic year 1934-35 was 3.28. The average grade of this group of 161 students who had passed proficiency examinations was 4.09, which represents superior scholarship. In fact forty-four of these students had University averages between 4.5 and 5.0, which, of course, means that they are among the very best students at the University. Moreover, it was precisely this smaller group of forty-four who earned per student the largest number of hours through proficiency examinations.

The total number of examinations passed by these 161 students was 212 and they covered twenty-seven different subjects.

Next, the records made by these 161 students in class work in courses which are in continuation of subjects in which proficiency examinations had been passed were studied. Seventy-three of these students had taken such continuation courses. In only one instance, a course in mathematics, was a poor record made. This student had passed a proficiency examination in college algebra. He received a D grade in class work in trigonometry, which of course is not strictly a continuation course. One student who passed a proficiency examination in general engineering drawing, took descriptive geometry, which has the drawing as pre-requisite, in class and received a C grade. Fifty-five students who passed the proficiency examinations in rhetoric 1, continued in class with rhetoric 2, the second semester's work in the subject, and made therein an average grade of 4.08. Other averages made in continuation courses were 3.61, 3.83, 4.00, 4.15, 4.50, and 4.67.

This study indicates pretty conclusively that the proficiency examination plan, as originally conceived, is working. The better students are finding it profitable and are taking advantage of the op-

portunity it offers to progress informally toward the degree. There is before me the record of a young woman who entered the University as a freshman last fall (September, 1934). In the one year she has earned a total of forty-five semester hours of credit, the equivalent of a normal load for three semesters. Thirty-one of these hours she earned through class work and fourteen were gained through proficiency examinations in rhetoric and German. She entered the University with two years of high school credit in both Latin and French. Her knowledge of German was gained at home. The young woman has no grade for the year of class work below A. Her case, of course, is unusual with respect to her language ability, but with reference to her scholastic ability, it is rather representative of the type of student who is gaining credit through the proficiency examinations.

## EDITORIAL COMMENT

### "DIPLOMA MILLS"

EDITOR'S NOTE:—The following resolution was adopted by the Association at the last annual meeting:

*Resolved*, that this Association encourage the Regional Associations of Collegiate Registrars to study their state laws and to solicit the co-operation of other educational agencies in their respective states in urging their legislatures to make the necessary revisions of the laws; and that this Association, through the Affiliated Regional Associations' Conference, co-operate with the regional associations to this end, and be it further

*Resolved*, that the Association, by circulation of this resolution, and by other appropriate methods, bring to the attention of other educational organizations of national scope the status of the laws of the several states with reference to the control of private incorporated institutions of higher education, and solicit their co-operation, through their own agencies and instruments, in bringing about the needed revisions of state laws.

In order that this resolution may be properly implemented, the following discussion of state control of private incorporated institutions as related to "Diploma Mills" is presented. Reprints are available to the officers of regional associations and of other organizations who will utilize them in carrying out the spirit of the resolution.

Nearly forty years ago the educational world was shocked by disclosures of a scandalous traffic in diplomas carried on by a group of racketeering institutions parading as colleges and universities. The flood-light of publicity accompanying these revelations caused these members of the educational underworld to scurry for cover and, in some cases, to migrate to new locations, but the iniquitous traffic was not suppressed for long. Between 1923 and 1926 similar shocking disclosures of an even more widespread traffic in fraudulent diplomas were made by the American Medical Association and other agencies. In each of these instances an accusing finger pointed to the inadequate state laws in the states where these institutions were operating. The unfavorable publicity and the recommendations of educators have brought about considerable improvement of state control, but in several states the doors are still opened wide to diploma mills. One of these is the state of Illinois which was a prominent offender at the time of the earliest disclosures in 1897, and which shared honors in this respect with Missouri in 1923. The indications are that diploma mills have been less active in the last ten years, and perhaps the most flagrant of the past offenses will never be repeated, but the country is not rid of racketeers and most assuredly we may expect a revival of the traffic in degrees in one form or another, unless the remaining states whose laws are inadequate can be brought to see the light.

Only last year the University of Chicago began to receive inquiries about an obscure institution located in the city of Chicago. The information that has been obtained to date, about that institution, indicates almost without doubt that it is a diploma mill, not a new one, but a consolidation of five old ones. All of the well-known characteristics are there: the prominent display in the catalog of the "not for profit" charter which is the famous refuge for diploma mills in Illinois; the small faculty of obscure persons with many degrees; the relatively large number of degrees and diplomas—in this case twenty—conferred without residence study; the location, in an apartment building in a residence section of the city, etc.

The earliest organized opposition to the traffic in fraudulent degrees was instituted by the North Central Association of Colleges and Secondary Schools in April, 1896, when a committee was appointed to consider the question of legislation regulating the granting of academic degrees. This committee reported<sup>1</sup> in 1898 condemning "with utmost severity a state of the laws which makes it possible for the existence of such an institution as the National University of Chicago" and making specific recommendations for the revision of the state laws. Meanwhile, in 1897 the National Education Association had listened to a paper<sup>2</sup> read by President Henry Wade Rodgers, of Northwestern University, describing the evil of the diploma mills and recommending revision of state laws, and had adopted a resolution which read in part as follows:

*Resolved*, that the state should exercise supervision over degree-conferring institutions through some properly constituted tribunal having power to fix a minimum standard of requirements for admission to or graduation from such institutions, and with the right to deprive of the degree-conferring power such institutions not conforming to the standard so prescribed.

In the same year the American Bar Association had unanimously adopted a resolution condemning the absence of state control of the conferring of law degrees "without reference to length of course of study or the qualifications required for admission and graduation of students," and the United States Bureau of Education (now Office of Education) had made a study<sup>3</sup> of the status of state control of private educational institutions.

<sup>1</sup> *School Review*, Vol. VI, p. 354.

<sup>2</sup> *Proceedings of the National Education Association*, 1897, pp. 700-8. Also, "Fraudulent Diplomas and State Supervision," *Educational Review*, Vol. 17, p. 269.

<sup>3</sup> *Report of the Commissioner of Education*, 1897-98, Vol. 2, pp. 1461-76.

The laws of New York and Pennsylvania were referred to and highly commended, in this early agitation, as models for other states.

The National University of Chicago was the cause of the most of this early excitement. It was originally exposed by the *Chicago Herald* of November 22, 1897. The reputation of this institution traveled around the world and left American education discredited in its wake. One London newspaper, picking up the story, said: ". . . it has had the insolence to nominate agents to carry on its scandalous traffic in foreign countries and has scattered its degrees over England, Germany, and Italy for a money compensation." The *London Daily News* wrote, "Among the other industries of Chicago is the manufacture of University degrees. Indeed, it turns out graduates as quickly and easily as it manipulates hogs." A paper in Germany published an article entitled "American Diploma Swindlers." The Ambassador of the United States at Berlin wrote home that he hoped the nuisance might be suppressed.

In 1923, after a period of relative complacency with reference to diploma mills, righteous indignation was rife in the American Medical Association because two Missouri diploma mills, the College of Physicians and Surgeons of St. Louis, and the College of Physicians and Surgeons of Kansas City, were selling medical diplomas and the Connecticut Board of Eclectic Examiners were accepting them in admission to examinations for license to practice medicine. A special Grand Jury of the Superior Court of Connecticut reported<sup>4</sup> in part as follows on the St. Louis institution:

This institution is a fraud and sold its diplomas openly and notoriously. . . . Some of the authorities and faculty of this school were without honor or any conception of the duty which educators owe to the young, and were on such terms of intimacy with various members of the Connecticut Board of Eclectic Examiners as to lead us to the conclusion that students were induced to attend the institution and pay for and receive a diploma with the knowledge that the holders of such diplomas would receive consideration from that board which they would not otherwise receive.

The same jury said,<sup>5</sup> of the Kansas City institution, that "the dishonorable traffic in diplomas . . . was freely admitted by the head of the school, coupled with the statement that, hereafter, the price would be higher." The teaching staff of this institution con-

<sup>4</sup> Reprinted from the *Hartford (Connecticut) Daily Times* in the *Journal of the American Medical Association*, Vol. 82, pp. 1140-41.

<sup>5</sup> *Journal of the American Medical Association*, Vol. 82, pp. 1219-20.



sisted of two men who were paid one hundred dollars per month, and it is said that a student could secure a diploma in one hour at the price of two hundred dollars. This amounted to the sale of diplomas over the counter.

The activity of the American Medical Association in the prosecution of these two iniquitous institutions marked the beginning of a three-year period of *hard times* for diploma mills. Oriental University was a famous one that was compelled to walk the plank during this period. This institution was located in Washington, D. C., in one room of a four story residence, and professed to give courses in anatomy, histology, pathology, human physiology, dermatology, dental surgery, mechanical engineering, zoölogy, physics, mineralogy, metallurgy, and many other subjects. In 1924, a person representing this institution and the American University of Los Angeles was tried in Venice and convicted of selling diplomas. The incident, like that of the National University, subjected American institutions in general to much ridicule. It is very difficult for foreigners to differentiate between such institutions and real universities, because, of course, they have nothing that parallels our great array of private colleges and universities. The next year the officers of Oriental University were prosecuted in the District of Columbia for conspiring to use the mails to defraud, and the President, "Bishop" H. P. Holler, was convicted and received the maximum sentence of two years in prison and a fine of one thousand dollars. A year later an educator, who had participated in the investigation and expose, wrote to a friend as follows: "On Friday of this week I had a glimpse of the present campus of Oriental University—the massive Norman walls of the Federal Prison at Atlanta."

Analysis of the records of Oriental University, from April 1, 1921, to January 1, 1924, showed that in this period 601 degrees were conferred, including 80 different degrees and titles, and 348 doctorates in chemistry, pharmacy, engineering, medicine, philosophy, and—believe it or not—divinity! Oriental University charged for each of these degrees an average of \$93.54 but had succeeded in collecting an average of only \$54.00. The story of Oriental University is presented in more detail in two articles<sup>6</sup> written by David Allan Robertson.

<sup>6</sup> "Diplomas for Dollars," *Educational Record*, Vol. 7, No. 1 (January, 1926), pp. 11-24. "The Educational Underworld," *North Central Association Quarterly*, Vol. I, No. 2 (September, 1926), pp. 246-52.



The American Medical Association was active in exposing Lincoln-Jefferson University and its affiliates in 1926.<sup>7</sup> The parent institution occupied a single room on the eleventh floor of a building in the business section of Chicago, and had plenty of room left for one of its affiliates, the University of Trinity College. The American University, another affiliate, occupied a small upstairs room in Los Angeles which served also for the living quarters of the "Dean." This institution, according to reports, advertised its degrees in England, Italy, India, and Japan.

Lincoln-Jefferson University, according to the records, conferred 526 degrees, of 38 varieties, in twenty different subjects, in a period of a little more than two years. There seemed to be no limitation to the kind of degrees that could be produced by this institution. The catalog announced in capital letters: "If you do not find what you want . . . write to the president."

This group of institutions did a flourishing business in foreign countries where they advertised their degrees (not their programs of education) as any commodity would be advertised for sale. They also had representatives doing personal work in foreign countries.

The story of Oskaloosa College is a tragedy. Prior to 1881 there was a legitimate Oskaloosa College at Oskaloosa, Iowa, under the control of the Church of the Disciples of Christ, but the faculty and trustees disagreed among themselves on the proposition to reorganize the college and move it to Des Moines, and the college was so weakened by this friction that it did not survive. Some of the faculty went to Des Moines and helped to organize Drake University, and others struggled on at Oskaloosa until the middle nineties when they gave up and closed the doors of the college.

A Mr. J. W. McLennan adopted the name of the defunct college and began to confer degrees on correspondence work, operating from two rooms in the business section. His business flourished for many years until a reporter on an Iowa newspaper set a trap for him by persuading a man in Louisiana to make application for several advanced degrees, the reporter paying the fees and writing the required book reviews, constituting the graduate work, without reading the books. This furnished the evidence needed by the federal authorities to prosecute for using the mails to defraud, and Mr. McLennan was indicted, but he and his wife took justice into

<sup>7</sup> "Active 'Correspondence' Diploma Mills," *Journal of the American Medical Association*, Vol. 68, pp. 1527-32.

TABLE I. STATUS OF STATE CONTROL OF PRIVATE INCORPORATED EDUCATIONAL INSTITUTIONS

STATE	NATURE OF CONTROL			
	APPROVAL OF THE ARTICLES OF INCORPORATION AND AMENDMENTS THEREOF BY THE STATE EDUCATIONAL AGENCY OR SPECIFIC REQUIREMENTS FOR INCORPORATION WITH REFERENCE TO MINIMUM EDUCATIONAL STANDARDS, PRESCRIBED BY STATE EDUCATIONAL AGENCY OR BY STATUTE.	RIGHT TO CONFER DEGREES GRANTED BY THE STATE EDUCATIONAL AGENCY OR UPON MEETING SPECIFIC REQUIREMENTS PRESCRIBED BY THE STATE EDUCATIONAL AGENCY OR BY STATUTE.	PENALTY FOR CONFERRING FRAUDULENT OR UNEARNED DEGREES	CONTINUED REGULATION AND POWER TO REVOKE.
Alabama.....				X
Arizona.....				
Arkansas.....	X	X	X	X
California.....	X	X	X	X
Colorado.....				X
Connecticut.....		X	X	X
Delaware.....		X		X
Florida*.....				
Georgia.....	X	X		X
Idaho.....				X
Illinois*.....				
Indiana*.....				
Iowa.....			X	X
Kansas.....	X			
Kentucky.....				X
Louisiana.....	X	X		
Maine.....		X	X	X
Maryland.....	X	X		X
Massachusetts.....	X	X		X
Michigan.....	X	X		X
Minnesota*.....				
Mississippi.....				X
Missouri.....	X			
Montana.....				X
Nebraska.....	X			
Nevada*.....				X
New Hampshire*.....				
New Jersey.....	X	X	X	X
New Mexico*.....				
New York.....	X	X	X	X
North Carolina.....	X	X		X
North Dakota.....				X
Ohio.....	X	X		X
Oklahoma.....		X	X	X
Oregon.....				X
Pennsylvania.....	X	X	X	X
Rhode Island.....	X	X	X	X
South Carolina*.....				
South Dakota.....				X
Tennessee.....				X
Texas.....				X
Utah*.....				
Vermont.....	X			
Virginia.....	X			X
Washington*.....				
West Virginia.....	X	X		
Wisconsin*.....				
Wyoming*.....				
District of Columbia.....	X	X	X	X

their own hands by committing suicide a few days after the indictment was returned. They left a note that they had carried out a suicide pact because they had no money to defend themselves against the charge which they claimed was unjust.

There is no doubt that the organized attacks on diploma mills by such institutions as the American Medical Association, the spectacular newspaper exposés, and the prosecutions in the federal courts for use of the mails to defraud, have checked their activities and have resulted in considerable improvement of state laws, for a recent study<sup>8</sup> of the status of state control of private institutions of higher education indicates that there are now at least twenty states and the District of Columbia in which a fairly adequate measure of regulation is in effect. Six states (Arkansas, California, New Jersey, New York, Pennsylvania, and Rhode Island) and the District of Columbia have thoroughly adequate laws. Eleven states, however, exercise no adequate control. These are Florida, Illinois, Indiana, Minnesota, Nevada, New Hampshire, New Mexico, South Carolina, Utah, Washington, Wisconsin, and Wyoming.

The history of the operations of diploma mills and a study of the various reports and recommendations, especially the McNeely report,<sup>9</sup> indicate certain features of state laws that are essential to adequate control of private institutions of higher education. These, we believe, may be stated as follows:

1. The articles of incorporation of private institutions of higher education and the amendments thereof should be approved by the state educational agency (Board of Education, Council of Education, Educational Commission, etc.) or specific minimum educational requirements for incorporation should be prescribed by the state educational agency or by statute.
2. The right to confer degrees should be granted by the state educational agency or upon meeting specific educational requirements prescribed by the educational agency or by statute.
3. There should be a penalty for conferring fraudulent or unearned degrees.
4. There should be continued regulation including the power to revoke charters.

Table I indicates the status of the laws of the several states with reference to these five criteria, as summarized from the McNeely report.<sup>10</sup> The states that are italicized have thoroughly adequate

<sup>8</sup> *Supervision Exercised by States over Privately Controlled Institutions of Higher Education*, John H. McNeely, Office of Education Bulletin, 1934, No. 8.

<sup>9</sup> *Op. cit.*

<sup>10</sup> *Op. cit.*

control and those marked with an asterisk have altogether inadequate control, not even the power to revoke. Ten states, Alabama, Idaho, Kentucky, Mississippi, Montana, Nevada, North Dakota, South Dakota, Tennessee, and Texas have no control except that vested in the power to revoke.

A number of the states carefully guard the certification of teachers and have specific standards for accrediting institutions of higher education, but this is not to be regarded as adequate control, because accrediting is the least of the interests of the diploma mills. In fact they germinate and grow to maturity only in the damp and the dim light of the sewers.

What can and should be done about the legislative situation? In 1897 the North Central Association and the National Education Association produced organized opposition with good results. In 1923 the American Medical Association led a campaign of organized opposition with excellent success. These organizations and others undoubtedly would lend their strength to any organized effort to secure further revision of state laws. The American Association of Collegiate Registrars is an ideal organization to take the lead in such an enterprise. Not only is it of national scope, but also it is affiliated with several other organizations of national scope by virtue of its membership in the American Council of Guidance and Personnel Associations. Furthermore, there are now more than twenty regional associations of registrars, some of which are already affiliated with the national organization. Seven of the eleven states with poorest laws are covered by regional associations and could make it a special project to study their state laws and bring about, if possible, the desirable revision.

Furthermore, other organizations of national scope should be invited to co-operate in the project. These agencies should study the laws of states which have made adequate provisions for the control of private educational institutions and approach their legislatures through appropriate avenues with specific constructive suggestions. It would be entirely appropriate and feasible, for example, for a state association of collegiate registrars, after making a thorough study of needed revisions of the laws, to draft a bill and attempt to get it introduced and sponsored, and to utilize the usual methods in giving it the necessary support to secure its enactment.

Dr. George F. Zook, Director of the American Council on Education, has kindly furnished a copy of the District of Columbia law which was passed in 1929. It is reproduced here, because it is a very good law and may be valuable as a model for other states.

An Act to amend subchapter 1 of chapter 18 of the Code of Laws for the District of Columbia relating to degree-conferring institutions.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That subchapter 1 of chapter 18 of the Code of Laws for the District of Columbia be amended by adding the following new sections:

Sec. 586a. The fee payable to the recorder of deeds for filing the certificate of incorporation under this subchapter shall be \$25.

Sec. 586b. No institution heretofore or hereafter incorporated under the provisions of this subchapter shall have the power to confer any degree in the District of Columbia or elsewhere, nor shall any institution incorporated outside of the District of Columbia or any person or persons individually or as a partnership or association or otherwise, undertaking to confer any degree, operate in the District of Columbia, unless under and by virtue of a license from the Board of Education of the District of Columbia, which before granting any such license may require satisfactory evidence—

1. That in the case of an individual or any unincorporated group of individuals he, or a majority of them, or in the case of an incorporated institution, a majority of the trustees, directors, or managers of said institution are persons of good repute and qualified to conduct an institution of higher learning.

2. That any such degree shall be awarded only after such quantity and quality of work shall have been completed as are usually required by reputable institutions awarding the same degree: *Provided*, That if more than one-half the requirements for any degree are earned by correspondence, or extramural study, such fact shall be conspicuously noted upon the diploma conferred: *Provided further*, That no diploma shall be issued conferring a degree in medicine or any healing art, or in dentistry, for study pursued or work done by correspondence.

3. That applicants for said degree possess the usual high-school qualifications at the time of their candidacy therefor.

4. That considering the number and character of the courses offered, the faculty is of reasonable number and properly qualified, and that the institution is possessed of suitable classroom, laboratory, and library equipment.

Sec. 586c. Application for the license referred to in the preceding section shall be in writing upon forms prepared under the direction of the Board of Education, and shall be filed with the secretary of the said board, whose duty it shall be, in case the institution so licensed is incorporated under the laws of the District of Columbia, to forward a copy of said license to the recorder

of deeds for the District of Columbia, who shall indorse upon the certificate of incorporation the fact that said license has been issued. The Board of Education is hereby authorized to employ the personnel of the public-school system of the District of Columbia, so far as the same may be necessary, for the proper performance of its duties under this Act, and it shall be the duty of all public officers and bureaus of the Federal Government concerned with educational matters to render such advice and assistance to the Board of Education as it may from time to time consider necessary or desirable for the better performance of its duties under this Act.

Sec. 586d. A license once issued may be revoked by said Board of Education for noncompliance on the part of any individual or individuals, association, or incorporated institution so licensed with the provisions of section 586d of this Act. Upon the revocation of any such license it shall be the duty of the secretary of the Board of Education, in the case of an institution incorporated under the laws of the District of Columbia, to forward a copy of the revocation to the recorder of deeds for the District of Columbia, who shall cause a notation to be placed upon the certificate of incorporation to the effect that its authority to confer degrees has been revoked: *Provided, however,* That thirty days' notice shall first have been given to such individual or individuals, association, or to the trustees, directors, or managers of said institutions, with full opportunity to be heard by said Board of Education at either a public or nonpublic session thereof, as may be desired by such individual or individuals, association, or the institution threatened with revocation of its license, and the evidence upon which said board shall act in the revocation of such license shall be committed to writing under the direction of the board, and upon application therefor a copy thereof furnished to such individual or individual or individuals, association, or the institution whose license has been revoked: *And provided further,* That any party aggrieved by the action of said board in refusing to license or in revoking a license previously granted may have the action of the said Board of Education reviewed by the Supreme Court of the District of Columbia at an equity term thereof.

Sec. 586e. No institution incorporated under the provisions of this subchapter shall use as its title, in whole or in part, the words United States, Federal, American, national, or civil service, or any other words which might reasonably imply an official connection with the Government of the United States, or any of its departments, bureaus, or agencies, or of the government of the District of Columbia, nor shall any such institutions advertise or claim the power to issue degrees under the authority of Congress or otherwise than under the authority of the license granted to them by the Board of Education as hereinbefore provided. The prohibition in this section contained shall be deemed to include and is hereby declared applicable to any individual or individuals, association, or incorporation outside of the District of Columbia which shall undertake to do business in the District of Columbia or to confer degrees or certificates therein, and any such individual or individuals, association, or incorporation violating the provisions of this section shall be subject to the penalty hereinafter in section 586f provided.



Sec. 586f. Any person or persons who shall, directly or indirectly, participate in, aid, or assist in the conferring of any degree by an unlicensed individual or individuals, association, or institution, or by any individual or individuals, association, or institution, whose license has been revoked, or shall advertise or claim any authority to confer any such degree, except in pursuance of the provisions of this Act, or who shall violate the provisions of the section of this Act immediately preceding shall be deemed guilty of a misdemeanor, and upon conviction thereof in the Supreme Court of the District of Columbia shall be punished by a fine or not more than \$2,000, or imprisonment for not more than two years, or both.

#### WHAT PRICE DEGREES?

The following extract from a letter written from Nandibagan, India, July 4, 1935, and published in *School and Society*, August 31, 1935, illustrates one angle of the "diploma mill" problem.

Since I departed from America I have been engaged in the healing of the human sufferers, who are hopeless and helpless. . . .

During my conversation with you I remember that you told me that there are several commercial organizations, styling themselves "Universities" which confer their degrees, on sending them the Thesis, and the payment of some fee, these were your exact words, which I remember, *still very correctly*, but unfortunately I have forgotten their names, so would you kindly tell me again the names of some of them which I shall keep as secret as anything if you credit. I know that these are not held in good respect in the Academic world. But as here is not any act for that and a Foreign degree, however low and degraded may they be are here held in good respect, and not only one but many Indians have got the Honorary degrees from America, Germany and France by sending their Thesis, while they never had been there, which they fix with their names, as an additional qualification, while they have with it some of the best degrees from some Indian Universities.

A co-worker friend of mine is anxious to get that, for the same reason while he is M.D. from one of the best Indian Universities. He has no other purpose besides, except to append a foreign degree with his name and that is all. . . .

This will increase somewhat honour for a man working in the way of God, and I assure you that for it you will get not only the one but thousands of rewards if you believe in that Almighty, who is the helper of all those who help in His way. . . .

# PROFESSIONAL NEWS

## INSTITUTE FOR ADMINISTRATIVE OFFICERS OF HIGHER INSTITUTIONS<sup>1</sup>

The Tenth Annual Institute for Administrative Officers of Higher Institutions was held at the University of Chicago, July 10, 11, and 12. The central theme of the Institute was "The Academic and Professional Preparation of Secondary-school Teachers."

The keynote of the Institute was sounded by President Hutchins in the opening address. After commenting on the phenomenal expansion of popular education, he pointed out the fact that the quantitative problem had absorbed practically all of our time and energy in the past and that consequently we have thus far been too little concerned about "the quality of our students, our courses of study, or our teachers." He then held before the Institute a "vision of millions of American youth receiving an education adapted to their needs and capacities, at the hands of teachers who are truly educated themselves," and invited it to engage in a critical study of methods of achieving this goal.

As an essential step in the preliminary study of adequate teacher preparation, a summary of recent trends in American Secondary Education was presented by M. H. Willing, Professor of Education, University of Wisconsin. The following trends were emphasized as significant for the teacher-training program: (1) a trend toward mass enrolment, implying a wide diversification of interests, abilities and needs which must be clearly understood by teachers and for which adequate provision must be made through instruction; (2) the upward and downward extension of secondary education, implying an increasingly broad range of preparation on the part of secondary-school teachers; and (3) the rapid professionalization of the staff and the increasing control over secondary education by those who have made intensive studies of its problems.

Specific curriculum changes at the secondary-school level are as significant to teacher education as are the broader trends to which reference was made above. These are mentioned briefly, without elaboration, as follows: (1) the increasing social significance of the curriculum, (2) the trend toward individualization of instruction,

<sup>1</sup> Proceedings of the Institute, including all of the addresses in full, may be secured from the University of Chicago Press.

(3) the trend toward integration, and (4) the greater use of so-called activities to facilitate stipulated learning or because of their intrinsic worth.

When attention was directed to the preparation of secondary-school teachers for the unique service which they should render, the picture presented was very discouraging. As pointed out by Thomas E. Benner, Dean of the College of Education, University of Illinois, a surprisingly large proportion of teachers are poorly prepared for the specific positions to which they are assigned. This situation was attributed to three facts: first, the subjugation of the liberal arts college to the exclusive interest of the American graduate school in narrow intensive specialization; second, failure of the standardizing agencies to adopt or to enforce appropriate standards of preparation; and third, unwise teaching assignments.

The type of higher institution in which secondary-school teachers should be prepared has long been an acute issue. According to Henry Klonower, Chief of the Teacher Division, Department of Public Instruction of the Commonwealth of Pennsylvania, desirable qualities "can find fertile soil in any type of institution," "or they may fail to be developed in any." In harmony with this view he recommended vigorously that the privilege of preparing secondary-school teachers be extended to any type of institution which can and will provide appropriate preparation.

Reports presented by representatives of six different types of institutions on "Experimental Programs in Preparing Secondary-School Teachers" supplied confirmation of Mr. Klonower's contention. Indeed, it is highly desirable that deliberate studies should be made of the problems of teacher education in various types of institutions in order that ultimately we may secure a clearer perspective of the relative merits of different types of curriculums.

That a new attitude toward the problems of teacher education is developing in higher institutions was evident throughout the Institute. The various reports showed a growing appreciation of the magnitude of the professional task, and supplied clear evidence that radical changes in organization and in curriculum have been made recently or are contemplated. The need of intensive studies leading to such changes and adjustments as the following was emphasized repeatedly: the clearer definition of the objectives of teacher education; the wiser selection of prospective teachers; the provision of more effective guidance routines and methods of personality devel-

opment; the most effective ways of promoting mental, moral, and physical maturity; the revision of curriculums to insure greater breadth and depth of preparation, including greater synthesis and integration; the recognition of and provision for individual needs and capacities of students who are working toward common goals; the modification of teaching procedures to insure clearer insights and understandings; the provision of broader and richer contacts with the physical and social environment as an essential part of many learning activities; and the development of valid qualitative as contrasted with quantitative standards of attainment.

When one examines the proceedings of the Institute to discover distinctive trends in teacher education, the following are readily identified: increased interest in the needs and potentialities of individual students and personality development; a growing conviction that four years are quite inadequate for the thorough preparation of secondary-school teachers, the recommendations presented varying from one to four years beyond the bachelor's degree; greater emphasis upon the need of staff members in teacher education institutions who are thoroughly acquainted with public secondary schools and who have a sympathetic and constructive attitude toward their problems; the reconstruction of curriculums to insure greater breadth and depth of preparation in both academic and professional fields; and a clearer recognition of the different elements or phases that comprise a comprehensive program of teacher education. In this connection, at least five more or less distinct phases or stages of preparation were emphasized repeatedly by the various speakers: (1) a broad general education, including a rich cultural background as well as an understanding of contemporary problems; (2) supplementary liberal education paralleling advanced and specialized study; (3) specialized curriculums, including sequential programs of academic and professional study and experience; (4) a year or more of internship supplementing residential observation and practice teaching; and (5) continued professional study while in service.

One fact merits additional emphasis. Whereas the value of both the academic and professional preparation provided by higher institutions was clearly recognized by all Institute speakers, the importance of more intimate contacts with secondary schools during the pre-service period of preparation was emphasized repeatedly. Such contacts are necessary in gaining both the understandings and the controls essential in teaching. In order to secure satisfactory at-

tainments in this connection, a period of internship prior to certification was vigorously recommended. Opinion was divided concerning the wisdom of delegating responsibility for the supervision of internes to teacher education institutions or to officials in the public school system.

—*Prepared from materials submitted by William S. Gray.*

### MISCELLANEOUS NEWS

According to *School and Society* the University of California was put on the spot by the red baiters when eighteen members of the faculty protested a bill pending in the California Legislature to make it a felony "to advocate the overthrow of government, publish or distribute any material advocating the overthrow of government, to organize or aid in the organization of any body which has for its aim the overthrow of government, to attend a meeting at which overthrow of government is advocated, to permit the use of any room for such a meeting, to teach in any private or public school any plan which advocates the overthrow of government, to display a red flag or symbol as advocacy of overthrow of government, and to possess or transport any material wherein the overthrow of government is advocated."

Assemblyman Frank G. Martin, one of the sponsors of the bill, asked President Sproul if he were aware of the protest and if it represented the attitude of the administration of the University. President Sproul replied avowing loyalty of the University to the state and abhorrence of communism and fascism and assured the Assemblyman that the professors were acting wholly as individuals. This did not satisfy Mr. Martin, however, and President Sproul was invited to appear before the Assembly Judiciary Committee to explain the attitude of the University. President Sproul was unable to accept the invitation because of previous engagements, but addressed a letter to the Chairman of the committee in which he said in part:

We are unalterably opposed to those who would change our social system or form of government by force or violence. But in days when men are beset by poverty and insecurity, bitter conflicts of thought are generated, and legislation inevitably reflects a tendency to coerce and prohibit. This is not, in our opinion, the way to serve liberty or establish confidence. We must steadfastly set our faces against those who act to destroy peace and the order; but we neglect the lessons of history if we attempt to prevent free men from

stating their beliefs and from "peaceably assembling." We are disposed to believe that Assembly Bill 107 and others of its type go too far in this direction and would tend, therefore, to destroy that Americanism which they are designed to conserve.

As to the members of the faculty of the University who protested Assembly Bill 107, they did not, of course, and could not represent the faculties as a whole any more than I can. But they did represent the tradition of academic freedom and were, I am sure you will agree with me, acting within their rights as citizens.

The bill was finally tabled, but Assemblyman Martin proposed to the University that a hearing be held before the State Supreme Court and the Attorney General to determine whether or not the classroom was being used to promote patriotism or revolutionary force and violence. But the interest of the public and of the press had, meanwhile, subsided and the proposal died.

The investigation of the University of Chicago by a committee of the State Senate, in response to the charge made by Charles Walgreen that students at the University were being indoctrinated with communism, was terminated after three hearings. Four of the five members of the committee signed a majority report vindicating the University. This report said, "All oral testimony offered by Mr. Walgreen does not prove the charges against the University of Chicago, even if his witnesses were uncontradicted." Senator Charles Baker, author of the resolution setting up the investigation and fifth member of the committee, was unable to concur and submitted a dissenting minority report.

While the majority report cleared the University of the charges of subversive teaching, it could not condone the extra-campus behavior of Professor Robert Morss Lovett. Professor Lovett at one time (during the Coolidge Administration) had written a letter in which he described all governments, specifically including the United States and Russia, as "rotten." He had also testified at one of the hearings that he was opposed to violence in any form, and that he believed in the Oxford Oath as the individual expression of the Kellogg Pact. In other words, it was demonstrated that Professor Lovett was a radical and a pacifist, so the committee recommended that he be honorably retired with the usual and suitable provision for emeritus professors.

The attitude of the committee toward these extra-campus activities of Professor Lovett is one of many recent indications of the perilous position of academic freedom.



The Illinois Teachers Oath Bill which had an overwhelming victory in the House received only nine votes in the Senate, due in no small measure to the efforts of the University of Chicago's Senator T. V. Smith. Said Senator Smith, in a speech against the bill, "Only last month we paused to celebrate, on Memorial Day, those who followed that gorgeous banner down the musty halls of death. Now in the wistful shadow of that day we are asked to legislate into existence an ancient and honorable virtue, Loyalty. There are three kinds of loyalty: (1) the fighting kind, (2) the sweating kind, and (3) the swearing kind. It is the swearing kind that we are now asked to legislate. . . . The teachers of Illinois ask us for better schools for our own children. Is our reply to be an oath? If so, let us remember that loyalty is not swearing, nor is it made by swearing. It is made of much sterner stuff. Loyalty is fighting and working. Long may it remain working."

The American Council of Guidance and Personnel Associations met at Teachers College, Columbia University, on July 29, 1935. The American Association of Collegiate Registrars was represented by Mr. Frank Hagemeyer. Plans for the February meeting in St. Louis were discussed. The two joint luncheons and the open meeting of the Council will be held at the Coronado Hotel and the joint reception, at the Statler Hotel. The following topics were approved for the joint luncheons on Wednesday, February 19, and Saturday, February 22:

1. The National Youth Project
  - a. Its Social and Economic Setting
  - b. Participation in It of Guidance and Personnel Agencies
2. Current Educational Developments
  - a. As Seen from the Federal Office of Education
  - b. Contributions of the American Council on Education

The open meeting of the Council will be held on Wednesday, February 19, between 2:30 and 3:30 P.M., to acquaint the members of the several associations with the work of the Council and to receive the reports of committees.

Miss Anna Jewett LeFevre deserves a prize for supplying the best news item of this number. On July 8, we received an announcement of her retirement from the office of Registrar of Bradley Polytechnic Institute. Upon this occasion the faculty and administrative officers presented her with a fine wrist watch and the Board of Trus-

tees arranged for the painting of her portrait to hang in Bradley Hall as a memorial to her splendid services, and gave her the title, Registrar Emeritus.

Later we received an announcement of her marriage to Dr. George Rowland Boyer, at Charleston, Illinois, August 10. They will be at home after December 1, at Gibson City, Illinois.

Dr. W. E. Sealock, President of the Municipal University of Omaha, committed suicide following his dismissal by the Board of Regents. No reason was given for the dismissal except that one member of the Board is said to have remarked that he did not believe that Dr. Sealock was a Christian. (He was a member of the Unitarian Church.) The American Association of University Professors received a formal request on July 5 to investigate the circumstances surrounding the dismissal.

Dr. George O. Berg, Registrar at St. Olaf College since 1915, died on March 15, 1935. Dr. Berg received his B.A. degree at St. Olaf College in 1899, and his Ph.D. degree from Johns Hopkins in 1903, after which he studied at the University of Berlin. He was a member of the American Philological Association, the Classical Association, and Phi Beta Kappa. In addition to his duties as Registrar, he was chairman of the Department of Ancient Languages in St. Olaf College. Mr. J. M. Bly has been appointed to succeed him as Registrar.

The twelfth annual meeting of the Association of Kansas College Deans and Registrars and Advanced Standing Committees was held at the College of Emporia on December 8, 1934. The following topics were discussed by the registrars: (1) the problems of charge for transcripts; (2) teacher placement; (3) recent regulations adopted by the State Board of Education, and (4) what use to make of freshman tests after giving them. The 1935 meeting will be held at Baker University sometime in October. The following officers were elected: President, F. A. Ragpole, McPherson College; Vice-President, Ruth Bundy, Ottawa University; Secretary, Ester Hoff, Friends University.

A regional conference, participated in by a number of Canadian and American universities for the discussion of various aspects of tutorial instruction, with particular reference to the comprehensive examination, was held on May 4 at the University of Buffalo. The

principal paper was read by Professor Robert C. Brooks, of Swarthmore College, author of *Reading for Honors at Swarthmore*. Institutions participating were as follows: McMaster, Western Ontario, Rochester, Hobart, Alfred, Wells, and Cornell. Dean Julian Park, of the University of Buffalo, was chairman of the committee in charge.

This is the first opportunity of the *Bulletin* to mention the appointment of Charles E. Friley to the vice-presidency of the Iowa State College of Agriculture and Mechanic Arts. Our readers will recall that Mr. Friley went to Iowa State College from Texas A and M in 1932 as Dean of the Industrial Science Division. He retains this position. In the position of Vice-President, he succeeds the late Dr. Herman Knapp.

Chauncey Samuel Boucher, Dean of the College at the University of Chicago, has been elected President of West Virginia University to succeed Robert A. Armstrong. He took over his new position on October first. Dr. Boucher came to the University of Chicago in 1923 as Professor of American History and was appointed Dean of the College in 1926. His most recent book is reviewed in this number.

American newspapers have received information that the Anglo-American Institute of the University of Moscow, affiliated with the Institute of International Education, was dissolved on July 19 without previous notice, after the arrival in Moscow of 230 American and a few English students. The Institute held its first session last year, which was attended by more than 200 English speaking persons.

According to the *New York Sun*, Brooklyn College is assured a federal appropriation of \$2,475,000. This sum will be supplemented by approximately \$3,000,000 from the city, and the total will be used in the construction of five new buildings. When completed the College will have eight buildings on a campus ten blocks long and will accommodate 7,500 students at a time.

Middlebury College is to have a new women's college which will include four large dormitories, a chapel, a library, a gymnasium, three lecture halls, an art museum, a music hall and a dean's home. The new college will make possible complete segregation of men and women. Segregation was adopted as a policy thirty-five years ago but not carried out until 1931.

Mrs. Margaret B. Kilby, Registrar of Asbury College, has been appointed Registrar of Louisburg College, Louisburg, N. C. The duties of the Registrar at Asbury will be assumed temporarily by F. M. Heston, Dean. Mrs. Kilby will move to her new position on September 1.

C. I. Pontius, President of the Public Securities Corporation of Tulsa, Oklahoma, has been elected President of the University of Tulsa to succeed Dean R. L. Laugheim, who has been Acting President since March, 1934. He will continue as Dean.

Yale University recently conferred the honorary degree of Doctor of Science upon Dr. Carl Emil Seashore, who has been head of the Department of Psychology at the State University of Iowa for thirty years.

A bill was introduced in the Wisconsin Legislature to reduce state salaries to a maximum of \$7,500. It was defeated in the Senate by a vote of 18 to 11. Only the Public Service Commission and the University would have been affected by the measure.

Dr. A. F. Harmon, formerly State Superintendent of Education in Alabama, has been elected president of Alabama College succeeding Dr. O. C. Carmichael, who resigned to accept the position of Dean of the Graduate School of Vanderbilt University.

Dr. James E. Allen has resigned the presidency of Davis and Elkins College to accept a similar position at Marshall College. Dr. Charles E. Albert, Dean of Davis and Elkins College, has been appointed Acting President to succeed him.

Clarence C. Stoughton has been advanced from Dean to President of Wagner Lutheran College, Staten Island, New York, succeeding the Reverend Dr. Frederic Sutter.

William D. Copeland, Secretary of Colorado College, goes to the presidency of Lincoln College, Illinois, to succeed B. C. Moore who has been Acting President.

Dr. William O. Hotchkiss has been appointed President of Rensselaer Polytechnic Institute, to succeed the late Dr. Palmer C. Ricketts. Dr. Hotchkiss has been President of the Michigan College of Mining and Technology for the past ten years.

Dr. G. H. Benton, Professor of History, has been appointed Acting Registrar of Drury College, succeeding Registrar Alice L. Thrasher who resigned because of ill health. Miss Blanche McClure has been appointed Assistant Registrar.

James A. Bond, Dean and Registrar of Bethune-Cookman College, Daytona Beach, Florida, attended the University of Chicago the Spring Quarter, 1934, on a fellowship from the General Education Board.

Dr. Charles L. Anspach, Michigan State Normal College at Ypsilanti, has been elected President of Ashland College, to succeed Dr. Edwin E. Jacobs who resigned.

### INDOCTRINATION?

"The artificial dichotomy between education and politics is the chief barrier to educational reconstruction. It is commonly put forth that the universities are useful to society and can give direction to affairs only in so far as they enhance pure scholarship in science and the arts. Politics, on the other hand, is regarded as the pressure of interested factions, selfishly conceived and corruptly exercised. . . .

"The living issue is not one of separation, but rather concerns the point of emphasis in an inevitable and wholly desirable interaction. Shall educators be the tool of the larger society, in menial servitude to all its purposes, or shall educators attempt to formulate concepts of the good and to mold society in accord with them? . . . In a sense, there is but one answer to these queries. The school is an instrument of society, education is one of many social functions, and our broader aims are social rather than educational. . . . As teachers they [educators] must play their part in achieving what society wants. As citizens, they should help to influence the nature of those wants.

"It might seem that this distinction between the educator and the citizen is tantamount to the dichotomy between education and politics which has been condemned. But it is not. What was decried was the allocation of functions among groups. What is proposed is that a single group realize its several functions. Nor is it sufficient if the political activities of the educator are entirely outside of the school. . . . The place where the university man should exercise his political functions is within the university. . . .

"It must be stressed that this does not imply indoctrination or propaganda. . . . It implies merely that education should stimulate political intelligence, present the possibilities of a better society, and constantly review the proposed methods of obtaining it."—*Redirecting Education*, Tugwell and Keyserling, Vol. 1, pp. 124-26.

# PROFESSIONAL READING

## BOOKS

*Electro-Magnetic Records and Reports.*—Registrars are increasing the application of the punched card method of compiling records and reports. Recently a book<sup>1</sup> has come from the Columbia University Press dealing with an important phase of modern college and university work—the work of producing facts with accuracy and speed primarily by using electro-magnets controlled by punched cards which count, sort, record, tabulate, and perform a variety of tasks assigned to the registrar. Briefly, it may be said that this electro-magnetic punched card method of tabulating facts works somewhat like a sausage machine because the raw data go in at one end and come out as a finished and incased product at the other end. The raw data are transcribed into tabulating cards in the form of holes punched in predetermined positions. Everything depends on the location of the hole. It must be in the right place. "The passage of the perforated cards under brush contacts permits an electric impulse to be made through the card at the position of the hole, actuating electro-magnets," which produce in final form such records and reports as the registrar's report to the president, the class lists, the grade report sheets, the scholastic records, the list of candidates for degrees, and statistical tables.

This book describing the punched card method consists of a collection of contributions by physicians, statisticians, directors of research, professors, and numerous other leaders in various professions, each explaining the use being made of the Hollerith punched card and machines in his special field of work or profession. As the reviewer is writing primarily for the *Bulletin of the American Association of Collegiate Registrars*, he shall mention briefly only the five articles written by registrars.

Henry G. Arnsdorf, Registrar of New York University, in his inimitable style, confesses that the registrar is confronted with registration problems; and demonstrates how some of these problems may be solved by the application of the punched card in compiling course cards, issuing class tickets, and compiling statistical

<sup>1</sup> *Practical Applications of the Punched Card Method in Colleges and Universities*, edited by G. W. Baehne, New York: Columbia University Press, 1935, pp. xxii + 422. \$4.50.



reports. Arnsdorf has apparently made an extensive study of the use of these mechanical aids in the registrar's office.

Perhaps no one uses the Hollerith machines more extensively in the registrar's work than Charles H. Maruth, the Assistant Registrar of the State University of Iowa. He uses the alphabetic equipment in compiling the student directory, the catalogue roster, the class lists, the final grade report sheets, and the advanced reports on candidates for degrees. As might be surmised, he also uses the punched cards in the compilation of statistical data, in the registration procedure and in controlling class registrations and Freshman Week assignments. Those who are interested in the varied uses of these machines and devices in the registrar's office beyond what is told in Maruth's chapter should write to him or, better yet, visit him and observe these machines in actual operation.

Registrar Ira M. Smith, of the University of Michigan, Max Fichtenbaum, the Assistant Registrar of the University of Texas, and Clifford L. Constance, the Assistant Registrar of the University of Oregon, made their contributions by elucidating the various applications of the punched card method in enrolment records, scholarship records, academic progress reports, personnel records, research and statistics. Some of the readers of this volume may wish that the registrars had given more definite information on the operating costs of these applications. Perhaps it should be assumed that by using the punched card method the results are better and the operating costs lower as compared with the old tedious routine hand methods. The writer of this review might add his mite by saying that in the registrar's and other offices of his institution the application of the punched card method is increasing; and on the basis of such job and cost analyses that have been made, it is apparent that the results, so far, are better and that the operating costs are either the same or lower than with the old routine methods formerly used.

There is, however, a limit even to what electro-magnets can do; consequently one must consider all the facts before definitely abandoning a well-established method of performing a definite task. A registrar of one institution may find that he can do a particular job better and at a lower cost by using hand methods, whereas, a registrar of another institution different in size, scope, organization, and available equipment, may be convinced that he can do the same job or a similar job much better and with less expenditure by using mechanical aids such as are described in G. W. Baehne's book. The

registrars, constantly confronted with the problem of lowering office expenditures while raising their batting averages, will find helpful suggestions in this volume, because it presents an exposition of the punched card method as it applies not only to the registrar's office but also to many other phases of administrative, research, and office work in colleges and universities. Although many of the problems that it deals with are not directly related to the registrar's work, yet they have their analogies in his office. This volume is an excellent reference book presenting a didactic and detailed discussion of all the basic and auxiliary machines and devices that have been developed to date for the purpose of accomplishing automatically the supplementary tasks related to the classifying, compiling, and printing of data.

E. C. MILLER

*Chicago's New Plan.*—If one wishes to know the "new plan" at the University of Chicago as it really exists, let him read *The Chicago College Plan*.<sup>1</sup> Here is one of the most exhilarating publications on American higher education that has come off the press in many a year. The book is written by Professor Boucher, who, as Dean of the College, has been responsible for the introduction of this new experiment in college reorganization.

It is always a difficult task to present educational data in an interesting manner. Dean Boucher's official story of the "new plan" is written in a vigorous, authoritative style, yet reads like a novel of adventure to those not entirely familiar with the technical language of the educator.

Registrars will be primarily interested in the changes that have been made in respect to the dropping of the traditional units of measurement, such as credits and grades. In fact, the question of where the registrar fits into such a plan might well be raised. There is hardly a registrar who, at some time or other, has not become thoroughly disgusted with "credit chasers" and "grade chisellers." Hence, the emphasis on examinations given by a board divorced entirely from the classroom, as a means of determining scholastic achievement, should be as refreshing to registrars as the cool breeze from a lake on a hot summer day.

In no part of the book is the reader given the idea that the changes

<sup>1</sup> Boucher, C. S., *The Chicago College Plan*, Chicago: The University of Chicago Press, 1935, pp. xii + 337. \$3.00.

involved in the "new plan" have been made in haste. On the contrary, there is evidence of much intensive research preceding major changes. An enthusiastic faculty worked long and hard in the development of the "new plan." Again and again, the reader is amazed at the group co-operation received in shaping this experiment.

The "new plan" seems to offer the registrar an unusual opportunity to do really professional work. He conducts the comprehensive examinations and may participate in studying the results. His office continues to house many precious records but of a kind that permits scholarly research. Removed from the necessity of filling a position of dignified clerkship, the registrar now has an opportunity to become a research worker of the first rank.

The book describes the organization of the University into five divisions: The College—lower division—and the four upper divisions of the Biological Sciences, the Humanities, the Physical Sciences, and the Social Sciences. Departments are grouped under the appropriate division.

The University of Chicago, under the "new plan," requires for admission only a few prescribed units. The emphasis is more on the scholastic aptitude and personal qualifications of the applicant. About seven hundred and fifty freshmen are carefully selected for admission each year.

Seven comprehensive examinations are required for the College Certificate and title of Associate in Arts. Five of the examinations are prescribed: namely, English composition, the biological sciences, the humanities, the physical sciences, and the social sciences, and two are elective. The student may proceed to take these examinations as rapidly as he is prepared. Students unsuccessful in passing Board examinations may repeat them whenever they feel qualified. Classroom quizzes, course examinations, discussions, and class attendance serve only to help the student prepare for the Board examinations.

According to Dean Boucher there is a marked change in student attitude concerning the acquisition of an education under the new plan. In his opinion three years of trial have convinced even the most sceptical that the thirst for knowledge may well be the distinctive characteristic of a college student.

The small college has been the most severe critic of the larger institutions of learning, claiming that the individual student at a

large university receives scant personal attention. The author's account of the system of student guidance in the College, the health service, and personnel problems met daily will put to shame the feeble efforts of many administrators of small colleges.

Finally, it is evident that the "new plan" is not going to become an old plan. Continued research will undoubtedly fashion new instruments to accomplish the objectives of the University. That is the key to the "new plan"—constant revision and change when needed, a faculty alive to progress, and a student body eager to accomplish.

No registrar can afford not to read Dean Boucher's book, *The Chicago College Plan*. Be prepared for a very pleasant mental stimulation.

A. F. SCRIBNER

*Administrative Principles Expounded.*—The authors of *The Government of Higher Education*<sup>1</sup> have provided a handy compendium of information concerning sound administrative policies and practices. The book is dedicated to members of the governing boards of American colleges and universities and the treatment of topics is oriented chiefly in terms of the needs of board members. The subject is covered in a comprehensive manner, with a total of twenty-three chapters devoted to such topics as the American system of higher education, the governing board, the membership of the board, control by external authority, the by-laws of the board, procedure at board meetings, officers and committees of the board, public relations, relations of the board to the students, to the faculty, to the president and to the educational program, institutional finances, and buildings and grounds. A good index facilitates ready reference to any topic.

The most striking feature of the book is the catechetical form which the authors have adopted. This makes for compactness and ready reference although it interferes somewhat with coherence and readability.

Particularly commendable is the manner in which the authors have utilized the findings of recent research studies. The text is replete with footnote references to the various investigations in the field, and although the statements as given in the text are extremely

<sup>1</sup> Edward C. Elliott, M. M. Chambers, William A. Ashbrook, *The Government of Higher Education*, New York: American Book Company, 1935, pp. xiv+290.

dogmatic, the reader is consistently referred to the appropriate supporting studies. The reviewer suggests that in a few cases the authors have not been sufficiently critical in their acceptance of statements from other studies. In some instances generalizations seem to be based on too few cases to warrant the assumption of validity (pp. 60, 63). The reader is occasionally left in the dark as to what the authors consider desirable practice, after data are presented indicating varying procedures in a few institutions (pp. 97, 99).

The authors seem to have treated the problems of the publicly controlled institutions somewhat more intensively than those of the privately controlled colleges. This condition doubtless arises from the fact that all three of the authors of the volume are or have been associated with publicly controlled institutions. The distribution of emphasis is not open to serious criticism, however, for all of the important topics in administration of privately controlled institutions seem to be adequately treated in the volume.

*The Government of Higher Education* is an excellent contribution to the literature in its field, and will be of value to many administrative officers who are studying their own organizations. Its greatest value will, of course, be to members of boards of trustees who sincerely desire to discharge their functions effectively. It would be an excellent investment for any college to present every member of its board with a copy. Some day society may realize the wisdom of giving the same care to the choosing of college trustees as is now given to the selection of members of the faculty and administrative staff. When that Utopia arrives, one of the features of the induction of new members of governing boards will doubtless be a rigorous examination over the principles set forth in *The Government of Higher Education*.

JOHN DALE RUSSELL

#### IN THE JOURNALS

"Non-Intellectual Aspects of Personality Facing Education," William F. Ogburn, *The Educational Record*, XVI, 3 (July, 1935), pp. 293-300.

Mr. Ogburn reminds us of the decline of the significance of the home in its influence on personality, and the decline of religion and its influence over human beings, and suggests that the schools must assume the responsibility for personality building relinquished by these two institutions. "Young

people, indeed nearly all individuals, want some force to be loyal to, want something higher with which to identify themselves. . . . The whole personality is not satisfied by the scientific criteria."

He is not quite sure how the schools could best accomplish this end, but makes four suggestions: (1) the adoption of psychiatric service; (2) greater use of extra-curricular activities, as they are a better ground than the classroom for dealing with personality; (3) increased emphasis upon art and esthetics as sublimating agencies; and (4) teaching the social sciences in such a way as to make them serve as a social religion. This would involve indoctrination as it is being practiced in Russia, Germany, and Italy. The author, though a teacher of social science, would prefer to see religious fervor develop in another field, but he fears that some kind of social religion will soon be upon us because personality needs it.

"In Order of their Eminence—An Appraisal of American Universities," Edwin R. Embree, *Atlantic Monthly*, Vol. 155, No. 6 (June, 1935), pp. 652-64.

Mr. Embree, President of the Rosenwald Foundation, ranks the eleven foremost American universities in the order of their eminence and indicates several others in competition for the twelfth place.

His yardstick is a composite one consisting of three criteria: (1) centers of concentration of scholars, as revealed by *American Men of Science*; (2) the scholarly output of faculties, as revealed by a survey of their publications; and (3) the relative eminence of departments as reported<sup>1</sup> by a committee of the American Council on Education under the chairmanship of R. M. Hughes.

The eleven most eminent universities, according to Mr. Embree's appraisal, are as follows (with ranking points included): Harvard (22), Chicago (21), Columbia (19), California (18), Yale (18), Michigan (14), Cornell (13), Princeton (12), Johns Hopkins (11), Wisconsin (11), Minnesota (7).

The most active contestants for the twelfth place are Stanford, Pennsylvania, Illinois, Iowa, and Ohio State.

Mr. Embree is a good writer. His trenchant remarks will please or annoy, depending upon the University loyalties of the reader.

"Recruiting of College Students in Ohio," R. W. Ogan, *School and Society*, XLII, 1075 (August 3, 1935), pp. 154-57.

This article is written from a report of the Committee on College Entrance of the Ohio College Association following the 1934 conference. It is shown that the number of freshmen in Ohio colleges in 1934-35 is less than twenty per cent of the June, 1934, high school graduates, so it would seem that there are enough prospects for all if means could be found for financing students who cannot afford to go to college.

The average expenditure for recruiting in the thirty-three colleges reporting their expenditures was more than \$14 per student in the freshman class. The report does not reveal the increase in the college enrolment as a direct

<sup>1</sup> *Educational Record*, XV, 1 (March, 1934).



result of the recruiting program. If per capita costs were computed on this basis, they would be much higher.

A code intended to standardize recruiting procedure, adopted by the Association, is presented at the end of the article.

"Legislating Loyalty," Kenneth M. Gould, *The American Scholar*, IV, 3 (Summer, 1935), pp. 345-56.

As a background for his discussion of the current widespread tendency of state legislatures to enact "teacher oath" laws, Mr. Gould reviews the history of repression of minority opinion in the United States, pointing out that such waves of reaction are associated with periods of stress, "notably in times of war or of economic crisis." In the opinion of the author, agitation for loyalty laws ostensibly originates in patriotic and fraternal societies, but is really supported by such large aggregations of capital as the United States Chamber of Commerce and the National Manufacturers' Association.

The progress that is being made by this movement in the current wave of repression of minority opinion threatens academic freedom.

"French vs. American Universities," Oran Raber, *Social Science*, X, 3 (July, 1935), pp. 261-67.

The difference is the difference between intensive and extensive training and the difference between the poorly organized and the highly organized. In the French universities each faculty operates as an independent unit and, what is more extraordinary from the point of view of American university administration, each professor may conduct his course as he pleases. He is not required to follow a schedule. He begins his lectures when he pleases and closes when he pleases, but this does not bother the French student, for he pays little attention to the lectures anyhow. He reads books.

The French university does not stand *in loco parentis*. Contrast this situation with our highly organized guidance programs.

The author thinks that the French system is more efficient in the production of geniuses and cites, as proof of this, the fact that France has produced two Nobel Prize winners for each two million inhabitants, whereas the United States has produced only one for every ten million.

The French university is considered primarily as a place for research and secondarily as a place for teaching, while here the first function is the spreading of knowledge, and if the professor has any spare time he uses it in extending the bounds of knowledge.

"Adam Leroy Jones," John Jacob Coss, *Columbia University Quarterly*, XXVII, 2 (June, 1935), pp. 171-75.

A memorial article. Professor Jones was Director of Admissions of Columbia University from 1909 until his death in 1934. The article describes his career at Columbia University and mentions numerous honors that were bestowed upon him.

"Recruiting for Admissions," Charles J. Turck, *Bulletin of the Association of American Colleges*, XXI, 1 (March, 1935), pp. 140-52.

This is a report of a committee of the Association of American Colleges, of which President Turck was chairman. Reports were received from 146 institutions. The report reveals a situation most unwholesome for education and strongly urges that state and regional groups study the problem with a view to developing a code.

The committee is very critical of the prevailing methods of granting scholarships. "Scholarships," it is claimed, "are frequently granted on an improper basis, without careful investigation, without discrimination, and for concealed purposes." Some of the college presidents reporting to the committee questioned the practice of giving scholarships to freshmen, which sounds like treating a boil on the neck by amputation.

#### THESE STATE LEGISLATURES!

While an Illinois Senate committee was recommending that the University of Chicago honorably retire a professor because of his off campus activities, a similar committee of the Pennsylvania legislature was reporting that two University of Pittsburgh professors were "unjustifiably" interfered with, in their outside activities, by the university administration. Following are the committees conclusions as reported by *School and Society*:

1. The board of trustees, chief target of the liberals, should cease to be self-perpetuating and consist of thirty-three members, including ten elected by the alumni and five appointed by the governor.
2. The university should return to the faculty tenure rules of 1919, abrogated by Chancellor John G. Bowman in 1921, a move which has made members of the faculty uncertain of their posts.
3. The action of the university in "dissolving the Liberal Club and also expelling the officers was too severe and drastic considering the circumstances."
4. The reasons given for refusal to grant a charter to the League for Social Justice "are not substantial and show a distinct tendency to abrogate and nullify any attempt on the part of students to become engaged in activities of a liberal nature on the university campus."
5. Dr. Colston E. Warne, economics professor, now at Amherst, and Dr. W. Ellison Chalmers, economics instructor, were "unjustifiably" interfered with in their outside activities by the University administration.

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## EMPLOYMENT SERVICE

Notices must be accompanied by a remittance in full in favor of *The American Association of Collegiate Registrars* and should be sent to the Editor in care of the *Office of Admissions, University of Chicago*.

Notices will be inserted in the order of their receipt.

Rates: For four insertions, limited to not more than fifty words, including the address, two dollars. Additional insertions at the regular rate. Extra space will be charged at the rate of five cents a word.

In printing these advertisements the Association assumes no obligation as to qualifications of prospective employees or of responsibility of employers.

In making this page available to those seeking personnel and to those seeking employment, the Association expects that at least some reply will be made to all those answering announcements.

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POSITION WANTED:—Registrar in college or assistant in university; teaching subjects, Education or Psychology. Experience: five years assistant and college registrar; two years registrar and dean, junior college; seven years teaching. Age, 30. Unmarried. M.A., 1932, Educational Administration. Address L, care Editor, Office of Admissions, University of Chicago. (1)

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POSITION WANTED:—Young man, thirty years of age, B.A. degree, School Administration and Education (minor History and Sociology). Diploma, Theological Seminary. Certificate, American Institute of Banking. Five years experience, largest National Bank in Pennsylvania. Desires position as registrar or assistant registrar. Reply G, Editor, Office of Admissions, University of Chicago. (1)

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POSITION WANTED:—Young woman with Bachelor's degree from Emory University and four years' experience as Registrar and Secretary of a junior college and experience as a stenographer and a teacher of commercial subjects desires a position in a registrar's office. Reply D, care Editor, Office of Admissions, University of Chicago.

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WANTED:—Position as Dean of Women or Registrar in college. Registrar and Assistant Dean in Eastern college for last five years. Previously taught in best private girls' schools of East. Available January 1, 1935. Excellent recommendations from present employers. Reply H, care Editor, Office of Admissions, University of Chicago.

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POSITION WANTED:—Young man with doctor's degree in Mathematics and 11 years experience teaching Mathematics wishes position as registrar or assistant in registrar's office. If desired, can teach Mathematics or Physics part time. Reply R, care Editor, Office of Admissions, University of Chicago. (2)

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